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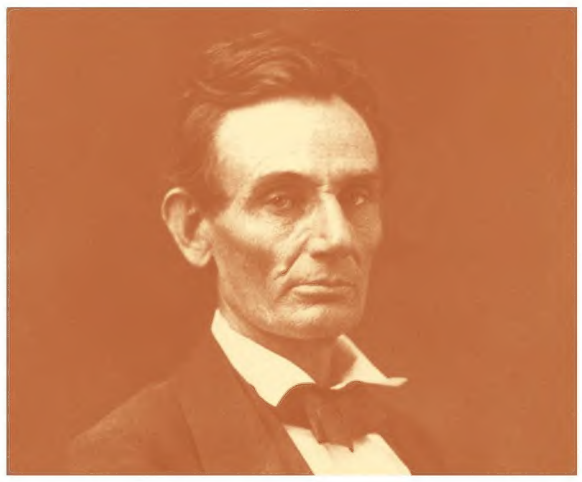
MAY 2004 VOLUME 35, NUMBER 2

FEATURES

"AS LATE AS 1869, Eastern magazines refused to print stories about Yellowstone, for fear that travelers' claims of natural geysers and steam vents were simply wild exaggerations."
—"YELLOWSTONE: IN THE BEGINNING," PAGE 80

50 Researchers (on an oil platform in the Gulf of Mexico) study marine life for new drugs.

68 Diane Arbus looked upon circus performers as near mythic figures.



60 The explosive Kansas-Nebraska Act of 1854 brought Abraham Lincoln back into politics.

40 ROCKING THE CRADLE

At a dig in a remote corner of Iran, an archaeologist has found evidence of an ancient, literate civilization he believes may be older even than Mesopotamia
BY ANDREW LAWLER / PHOTOGRAPHS BY MOHAMMAD ESLAMI-RAD

50 MEDICINE FROM THE SEA

Scientists leave no urchin or barnacle unturned in their search for marine creatures that may yield new treatments for cancer, asthma and other ailments
BY KEVIN KRAJICK / PHOTOGRAPHS BY JEFFREY L. ROTMAN

60 THE LAW THAT RIPPED AMERICA IN TWO

Intended to quell hostility over the issue of slavery, the Kansas-Nebraska Act, passed 150 years ago this month, instead increased the likelihood of Civil War
BY ROSS DRAKE

68 A FRESH LOOK AT DIANE ARBUS

A new exhibit and the release of personal papers renew the debate over Diane Arbus' unsettling photographs—and her place among 20th-century artists
BY TESSA DECARLO

79 DESTINATION AMERICA

Visit Yellowstone as it was in the 1870s, sail a schooner, drink a cuppa joe and hit a home run on the field of dreams in our first-ever summer travel section

80 IN THE BEGINNING: *YELLOWSTONE NATIONAL PARK*
86 RED BANK REDUX: *NEW JERSEY*
88 CAFÉ SOCIETY: *SAN FRANCISCO, CALIFORNIA*
92 FIELDER'S CHOICE: *DYERSVILLE, IOWA*
94 LIVING TRADITION: *WHIDBEY ISLAND, WASHINGTON*
96 O'KEEFFE COUNTRY: *SANTA FE, NEW MEXICO*
98 TIME CAPSULE: *OLD SALEM, NORTH CAROLINA*
100 BEFORE THE MAST: *CAMDEN, MAINE*

ON THE COVER A worker at an archaeological site near Jiroft, in southeastern Iran, sweeps away sediment from the remains of a mud-brick structure that one researcher says may be 4,500 years old.
PHOTOGRAPH BY MOHAMMAD ESLAMI-RAD / GAMMA

94 On Whidbey Island, in Washington's Puget Sound, residents are saving history, piece by piece.

JEFFREY L. ROTMAN; © 1972 ESTATE OF DIANE ARBUS, LLC; BETTMANN / CORBIS; JOEL W. ROGERS / CORBIS

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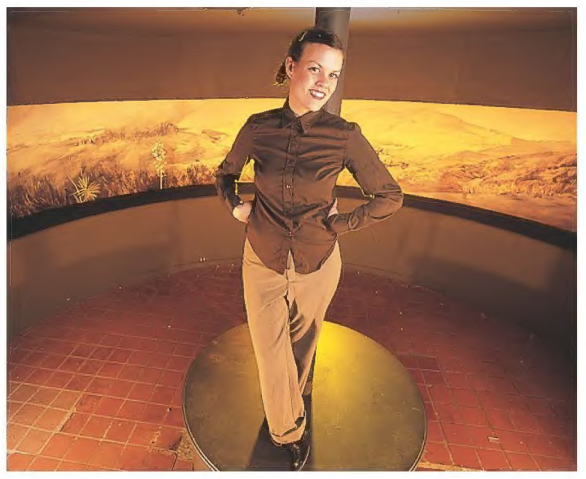
MAY 2004 VOLUME 35, NUMBER 2

DEPARTMENTS

"HE POSED for no fewer than 27 pictures: in a fur-lined overcoat, in evening dress, and most important, in a velvet jacket, knee breeches, silk stockings and gleaming pumps."
—"SUPREMELY WILDE," PAGE 17

26 Bats, both threatened and not (like this Eastern pipistrelle), are thriving in old mines.

20 Tuskegee airmen flew 1,578 missions in WWII and downed 260 enemy planes.



109 Artist Sara Velas says her thirst for wider and wider canvases led her to the panorama.

35 "I tried to make it the girl next door, warm, and maybe semi-sexy," says Jean Hay of her delivery of "Reveille With Beverly," a morning radio program for soldiers during World War II.

17 INDELIBLE IMAGES *Supremely Wilde*
Arguably the best-known portrait of the Irish wit Oscar Wilde, Napoleon Sarony's photograph also set an important legal precedent
BY MITCH TUCHMAN

20 POINTS OF INTEREST *On Clipped Wings*
As the country's first African-American military pilots, the Tuskegee airmen fought their toughest battle against racism *BY KEITH WELDON MEDLEY*

26 PHENOMENA & CURIOSITIES *A Mine of Its Own*
With undisturbed caves growing scarce, conservationists are setting aside abandoned mineral sites as refuges for endangered bats
BY DOUGLAS H. CHADWICK

102 PRESENCE OF MIND *The (Scientific) Pursuit of Happiness*
What can the Dalai Lama teach us about joy? More than we'll ever know
BY CHIP BROWN

109 PEOPLE FILE *Panorama Mama*
Los Angeles painter Sara Velas takes the long way round
BY ED LEIBOWITZ

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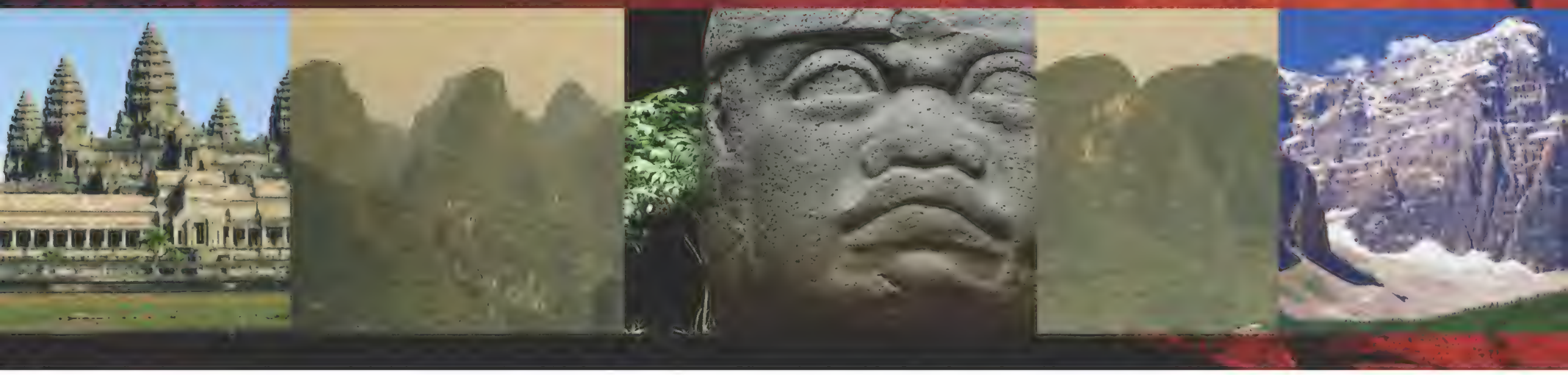

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Discoveries

Finding pharmaceuticals in the sea, unsettling images and nuggets of Americana ~ BY CAREY WINFREY

Rotman (left) with Krajick: Gushing.

OUT IN THE GULF OF MEXICO, photographer Jeff Rotman accompanied divers collecting marine organisms from the artificial reefs created by offshore oil rigs ("Medicine From the Sea," p. 50), part of a major effort to discover new pharmaceuticals. Nearly every time Rotman returned to the boat, he would gush about all the curious creatures he'd spied beneath the sea. Finally, writer Kevin Krajick could stand it no more. He borrowed flippers, a mask and a snorkel and jumped over the side. Mistake. "Great big swells kept washing saltwater into my snorkel, and I started spluttering," Krajick recalls. "Not drowning, but definitely not having fun." Never mind. Krajick has other skills. In fact, he's the only person to win a second Walter Sullivan Award for Excellence in Science Journalism. He most recently won the prestigious award, sponsored by the American Geophysical Union, for an article in our September 2003 issue, "Defusing Africa's Killer Lakes," about efforts by scientists to prevent a recurrence of the massive eruption of carbon dioxide that killed some 1,800 villagers near a lake in Cameroon in 1986. Judges called the article a "superb and engaging piece of scientific writing" that "reads like a great mystery." Hear, hear.

DeCarlo: Her view was modified—*somewhat*.

TESSA DECARLO FIRST SAW the photographs of Diane Arbus in 1967, when, as a college freshman, she visited the "New Documents" show at the Museum of Modern Art in New York City. Her reaction was fairly typical. "I thought her pictures of odd and unfortunate-looking people revealed a vision that was dark and even cruel," she recalls. Years later, though, after months of immersing herself in Arbus' work to write "A Fresh Look at Diane Arbus" (p. 68), she modified her view—somewhat. "I still see an element of cruelty in her photographs," says DeCarlo, "but also a deep tenderness, a melancholy joy." Visiting a new Arbus show at the San Francisco Museum of Modern Art last year, DeCarlo recalled Metropolitan Museum of Art curator Jeff Roseheim telling her that Arbus had moved him as no other artist had done. "Once I saw the San Francisco show, I understood what he meant," she says.

Burke and Py-Lieberman: Inspired by witty readers.

YOU, DEAR READERS, were the inspiration for our Destination America special section. We think of you as thoughtful, witty, engaged people, deeply interested in history, nature, science, art and culture. So we set out to create a special collection of places to visit across this great land of ours that the SMITHSONIAN reader would particularly enjoy. Senior Editor Kathleen Burke and Associate Editor Beth Py-Lieberman ushered the section into print.

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Grand Reunion

For the dedication of a new World War II memorial on the Mall, the Smithsonian will stage a four-day festival of reminiscence

"NO MAN and no force can abolish memory," wrote President Franklin Roosevelt in May 1942, six months after Americans had taken up arms against men and forces making a furious attempt to do just that. The memory of that fateful worldwide encounter lives on, in photographs and films, in the written word and the spoken recollection, at sites consecrated by blood and sites hallowed by custom. On the Mall here in Washington this Memorial Day weekend, just shy of the 60th anniversary of D-Day, the nation will dedicate a new site to the memory of World War II and its warriors, the 16 million men and women who served in the armed forces during the conflict, of whom more than 400,000 gave their lives. The National World War II Memorial is situated on a portion of the Mall between the Washington Monument and the Lincoln Memorial. The dome of the Capitol rises in the distance to the east and Arlington Cemetery lies directly across the Potomac to the west. In the majestic alignment of all of those monuments over the miles of earth, you can read the steady purpose of a nation.

For the weekend of the memorial's dedication, the Smithsonian's Center for Folklife and Cultural Heritage is organizing a grand public gathering, in partnership with the American Battle Monuments Commission, and we hope that hundreds of thousands of guests will attend—veterans who knew the war firsthand and a great crowd of their families, friends and admirers. We're calling the occasion "Tribute to a Generation: National World War II Reunion," and for four days it will transform a stretch of the Mall adjacent to the National Air and Space Museum into a setting for warm and lively reminiscence (see p. 35). The events—outdoors and in pavilions—will include something for visitors of every age. For the veterans, drawn together by the memory of the mighty enterprise in which they all once shared, the most welcome attraction is likely to be Reunion Hall, where a message board with the names of individual military units will encourage the renewal of associations and friendships.

Joe Rosenthal's photo of the raising of the flag on Mt. Suribachi is in the collections of the National Museum of American History.

Elsewhere, on two large stages, we'll re-create the sweet, swinging rhythms of the era's music and dance. Other pavilions will feature interviews and panel discussions with veterans and war workers; exhibitions from the Veterans History Project at the American Folklife Center in the Library of Congress; an exhibition on the planning and building of the World War II memorial itself; and hands-on activities for families and children (learn how to crack an encoded message or, a greater challenge, learn how to Lindy). Conservation experts will advise veterans and their families how best to save the material evidence of the war years in their possession—the letters, photographs, scrapbooks, maps, medals and such that are irreplaceable links to the era. And in the time-honored Smithsonian tradition of telling a story through objects, we'll display military artifacts and equipment identified with the war throughout the blocks-long extent of the reunion: spotter plane, Sherman tank, halftrack, jeep and more. They're silent and motionless now, but a little imagination turns the engines.

The Smithsonian is honored indeed to host this celebration of men and women, in uniform and on the home front, whose spirit of resolve, aspiration and sacrifice sustains us still. They launched America on course to become, before the century was done, the world's most powerful voice for democracy. "Tribute to a Generation" is an occasion whose like we will not see again, at once joyful and valedictory. The reality is that more than a thousand veterans of the war die each day, and it was surely time's relentless urging that helped set the stones of the World War II Memorial in place at last. Many of those whose deeds earned the monument will now have an opportunity to stand in its presence, and we should not miss the opportunity to stand gratefully in theirs.

Lawrence M. Small
SECRETARY OF THE SMITHSONIAN INSTITUTION

JEFF TINSLEY; JOE ROSENTHAL / AP / WIDE WORLD PHOTOS

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LETTERS

Readers respond to the March issue:

COSTS OF LIVING LONGER

I ENJOYED "Kenyon's Ageless Quest," by Stephen Hall, about research into the aging process by Cynthia Kenyon and others and the possibility of extending the human life span. But what about the social, economic and environmental consequences? If people live to be 110 or 120 without working longer, will retirement and pension plans collapse? And if people work longer, will there be enough jobs for younger generations? Can agricultural output and fresh-water supplies keep pace? In short, can the world support such an increased population?

JUDITH M. RICE
BOSTON, MASSACHUSETTS

YOUR ARTICLE RAISED unsettling issues. We may have the ability to make changes to the human life span, but scientists need to remember to ask, "Should we?" I feel that both dying and aging are natural processes, not diseases. If we lived any longer, would we be any happier? Maybe we should concentrate on living worthwhile, fulfilling lives in the time we have.

ROSALIE RUST
ST. LOUIS, MISSOURI

REMEMBERING BATAAN

DONOVAN WEBSTER'S article "In Their Footsteps," about the Bataan Death March, evoked memories of my uncle who survived the march but ultimately succumbed to malaria at Camp O'Donnell in the Philippines. But I was dismayed to learn about the neglect of the memorials dedicated to this poignant piece of our military history. As is often said, if we forget our past, we are doomed to repeat it.

PHIL DOWNING
HUNTINGTON BEACH, CALIFORNIA

A FAIR DUEL?

IN THE PICTURE OF the pistols used in the Burr and Hamilton duel, one is a flintlock and the other a percussion cap. Was that their original condition, or had one been "modernized"? It hardly seems fair to duel with an unmatched pair.

CHARLES F. HRUSKA
BROOKLYN, NEW YORK

Good catch. The pistols were both flintlocks in 1804, but one was converted to a caplock during the Civil War. —Ed.

RUNNING THE CANAL

WHEN THE TRANSFER of the Panama Canal ("Panama Rises") began, the naysayers said Panamanians would not be able to operate the canal as well as the Americans. Your article shows otherwise and affirms that Panamanians have improved on the canal's overall efficiency.

CHARLES P. HARRISON
MARIETTA, GEORGIA

STATUE STATURE

"RETURN OF A GIANT" says the 55-foot-tall Vulcan monument in Birmingham, Alabama, is "the largest statue of any kind in the United States after the Statue of Liberty." That would be news to residents of Butte, Montana, who are watched over by the 90-foot-tall statue of Our Lady of the Rockies.

STEVE WING
SPOKANE, WASHINGTON

Fans of the Lady were not alone in pointing out that Vulcan's supremacy is something of a tall tale. We've also been generously informed of the 67-foot-tall Sam Houston Statue in Huntsville, Texas. We regret the error. —Ed.

BEETS US

"NO CHIVE LEFT BEHIND," about produce illiteracy, struck a chord. My husband once asked a grocery-store clerk, "Do you know where I can find ginger root?" The young man replied, "Which department does she work in?"

SHERRI L. BERGMAN
SEWANEE, TENNESSEE

BUBLEY COUPLE

UNBEKNOWNST TO US, the photographer Esther Bubley ("Private Eye") took a picture of me and my fiancée on the steps of the Thomas Jefferson Memorial in 1943 (below) while I was on liberty from my naval station. The photograph was published that year in *Minicam Photography*. We just celebrated our 60th wedding anniversary.

HERBERT LANGER
BERGENFIELD, NEW JERSEY

Please send letters to LettersEd@simag.si.edu or to **Letters, Smithsonian, MRC 951, P.O. Box 37012, Washington, D.C. 20013.** Include a telephone number and address. Letters may be edited for clarity or space. Because of the high volume of mail we receive, we cannot respond to all letters. Send queries about the Smithsonian Institution to info@si.edu or to VIARC, Public Inquiry Mail Service, P.O. Box 37012, Washington, D.C. 20013.

SMITHSONIAN (MARCH 2004) (2); ESTHER BUBLEY

INTRODUCING CIALIS, THE FIRST TABLET FOR ERECTILE DYSFUNCTION THAT GIVES YOU UP TO 36 HOURS TO CHOOSE THE MOMENT THAT'S RIGHT FOR YOU AND YOUR PARTNER.

Cialis®
(tadalafil) tablets

36-HOUR CIALIS.
WHICH MOMENT WILL BE RIGHT FOR YOU?

Discover Cialis *(pronounced see-AL-iss)*, a new prescription tablet for erectile dysfunction (ED) that goes to work fast and can work up to 36 hours.* And Cialis is made to work only with sexual stimulation, so a silly moment can turn into the right moment. Which moment will be the right moment for you?

See important safety information below and Patient Information on following page.

Don't miss another moment, talk to your doctor and see if a *free sample* of Cialis is right for you. For more information visit *www.cialis.com* or call 1-877-4-CIALIS.

Cialis is not for everyone. If you take nitrates, often used for chest pain (also known as angina), or alpha-blockers (other than Flomax 0.4 mg once daily), prescribed for prostate problems or high blood pressure, do not take Cialis. Such combinations could cause a sudden, unsafe drop in blood pressure. Don't drink alcohol in excess (to a level of intoxication) with Cialis. This combination may increase your chances of getting dizzy or lowering your blood pressure. Cialis does not protect a man or his partner from sexually transmitted diseases, including HIV.

The most common side effects with Cialis were headache and upset stomach. Backache and muscle ache were also reported, sometimes with delayed onset. Most men weren't bothered by the side effects enough to stop taking Cialis. Although a rare occurrence, men who experience an erection for more than 4 hours (priapism) should seek immediate medical attention. Discuss your medical conditions and medications with your doctor to ensure Cialis is right for you and that you are healthy enough for sexual activity.

**In clinical trials, Cialis was shown to improve, up to 36 hours after dosing, the ability of men with ED to have a single successful intercourse attempt.*

Flomax® (tamsulosin HCl) is a registered trademark of Boehringer Ingelheim

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Patient Information

Read the Patient Information about CIALIS before you start taking it and again each time you get a refill. There may be new information. You may also find it helpful to share this information with your partner. This leaflet does not take the place of talking with your doctor. You and your doctor should talk about CIALIS when you start taking it and at regular checkups. If you do not understand the information, or have questions, talk with your doctor or pharmacist.

What important information should you know about CIALIS?

CIALIS can cause your blood pressure to drop suddenly to an unsafe level if it is taken with certain other medicines. You could get dizzy, faint, or have a heart attack or stroke.

Do not take CIALIS if you:

- **take any medicines called "nitrates."**
- **use recreational drugs called "poppers" like amyl nitrate and butyl nitrate.**
- **take medicines called alpha blockers, other than Flomax® (tamsulosin HCl) 0.4 mg daily.**

(See "Who should not take CIALIS?")

Tell all your healthcare providers that you take CIALIS. If you need emergency medical care for a heart problem, it will be important for your healthcare provider to know when you last took CIALIS.

After taking a single tablet, some of the active ingredient of CIALIS remains in your body for more than 2 days. The active ingredient can remain longer if you have problems with your kidneys or liver, or you are taking certain other medications (see "Can other medications affect CIALIS?").

What is CIALIS?

CIALIS is a prescription medicine taken by mouth for the treatment of erectile dysfunction (ED) in men.

ED is a condition where the penis does not harden and expand when a man is sexually excited, or when he cannot keep an erection. A man who has trouble getting or keeping an erection should see his doctor for help if the condition bothers him. CIALIS may help a man with ED get and keep an erection when he is sexually excited.

CIALIS does not:

- cure ED
- increase a man's sexual desire
- protect a man or his partner from sexually transmitted diseases, including HIV. Speak to your doctor about ways to guard against sexually transmitted diseases.
- serve as a male form of birth control

CIALIS is only for men with ED. CIALIS is not for women or children. CIALIS must be used only under a doctor's care.

How does CIALIS work?

When a man is sexually stimulated, his body's normal physical response is to increase blood flow to his penis. This results in an erection. CIALIS helps increase blood flow to the penis and may help men with ED get and keep an erection satisfactory for sexual activity. Once a man has completed sexual activity, blood flow to his penis decreases, and his erection goes away.

Who can take CIALIS?

Talk to your doctor to decide if CIALIS is right for you.

CIALIS has been shown to be effective in men over the age of 18 years who have erectile dysfunction, including men with diabetes or who have undergone prostatectomy.

Who should not take CIALIS?

Do **not** take CIALIS if you:

- **take any medicines called "nitrates"** (See "What important information should you know about CIALIS?"). Nitrates are commonly used to treat angina. Angina is a symptom of heart disease and can cause pain in your chest, jaw, or down your arm.

  Medicines called nitrates include nitroglycerin that is found in tablets, sprays, ointments, pastes, or patches. Nitrates can also be found in other medicines such as isosorbide dinitrate or isosorbide mononitrate. Some recreational drugs called "poppers" also contain nitrates, such as amyl nitrate and butyl nitrate. Do not use CIALIS if you are using these drugs. Ask your doctor or pharmacist if you are not sure if any of your medicines are nitrates.
- **take medicines called "alpha blockers", other than Flomax® 0.4 mg daily.** Alpha blockers are sometimes prescribed for prostate problems or high blood pressure. If CIALIS is taken with alpha blockers other than Flomax® 0.4 mg daily, your blood pressure could suddenly drop to an unsafe level. You could get dizzy and faint.
- **you have been told by your healthcare provider to not have sexual activity because of health problems.** Sexual activity can put an extra strain on your heart, especially if your heart is already weak from a heart attack or heart disease.
- **are allergic to CIALIS or any of its ingredients.** The active ingredient in CIALIS is called tadalafil. See the end of this leaflet for a complete list of ingredients.

What should you discuss with your doctor before taking CIALIS?

Before taking CIALIS, tell your doctor about all your medical problems, including if you:

- **have heart problems** such as angina, heart failure, irregular heartbeats, or have had a heart attack. Ask your doctor if it is safe for you to have sexual activity.
- **have low blood pressure or** have high blood pressure that is not controlled
- **have had a stroke**
- **have liver problems**
- **have kidney problems or require dialysis**
- **have retinitis pigmentosa,** a rare genetic (runs in families) eye disease
- **have stomach ulcers**
- **have a bleeding problem**
- **have a deformed penis shape** or Peyronie's disease
- **have had an erection that lasted more than 4 hours**
- **have blood cell problems** such as sickle cell anemia, multiple myeloma, or leukemia

Can other medications affect CIALIS?

Tell your doctor about all the medicines you take including prescription and non-prescription medicines, vitamins, and herbal supplements. CIALIS and other medicines may affect each other. Always check with your doctor before starting or stopping any medicines. Especially tell your doctor if you take any of the following:

- medicines called nitrates (See "What important information should you know about CIALIS?")
- medicines called alpha blockers. These include Hytrin® (terazosin HCl), Flomax® (tamsulosin HCl), Cardura® (doxazosin mesylate), Minipress® (prazosin HCl) or Uroxatral® (alfuzosin HCl).
- ritonavir (Norvir®) or indinavir (Crixivan®)
- ketoconazole or itraconazole (such as Nizoral® or Sporanox®)
- erythromycin
- other medicines or treatments for ED

How should you take CIALIS?

Take CIALIS exactly as your doctor prescribes. CIALIS comes in different doses (5 mg, 10 mg, and 20 mg). For most men, the recommended starting dose is 10 mg. **CIALIS should be taken no more than once a day.** Some men can only take a low dose of CIALIS because of medical conditions or medicines they take. Your doctor will prescribe the dose that is right for you.

- If you have kidney problems, your doctor may start you on a lower dose of CIALIS.
- If you have kidney or liver problems or you are taking certain medications, your doctor may limit your highest dose of CIALIS to 10 mg and may also limit you to one tablet in 48 hours (2 days) or one tablet in 72 hours (3 days).

Take one CIALIS tablet before sexual activity. In some patients, the ability to have sexual activity was improved at 30 minutes after taking CIALIS when compared to a sugar pill. The ability to have sexual activity was improved up to 36 hours after taking CIALIS when compared to a sugar pill. You and your doctor should consider this in deciding when you should take CIALIS prior to sexual activity. Some form of sexual stimulation is needed for an erection to happen with CIALIS. CIALIS may be taken with or without meals.

Do not change your dose of CIALIS without talking to your doctor. Your doctor may lower your dose or raise your dose, depending on how your body reacts to CIALIS.

Do not drink alcohol to excess when taking CIALIS (for example, 5 glasses of wine or 5 shots of whiskey). When taken in excess, alcohol can increase your chances of getting a headache or getting dizzy, increasing your heart rate, or lowering your blood pressure.

If you take too much CIALIS, call your doctor or emergency room right away.

What are the possible side effects of CIALIS?

The most common side effects with CIALIS are headache, indigestion, back pain, muscle aches, flushing, and stuffy or runny nose. These side effects usually go away after a few hours. Patients who get back pain and muscle aches usually get it 12 to 24 hours after taking CIALIS. Back pain and muscle aches usually go away by themselves within 48 hours. Call your doctor if you get a side effect that bothers you or one that will not go away.

CIALIS may uncommonly cause:

- **an erection that won't go away (priapism).** If you get an erection that lasts more than 4 hours, get medical help right away. Priapism must be treated as soon as possible or lasting damage can happen to your penis including the inability to have erections.
- vision changes, such as seeing a blue tinge to objects or having difficulty telling the difference between the colors blue and green.

These are not all the side effects of CIALIS. For more information, ask your doctor or pharmacist.

How should CIALIS be stored?

- Store CIALIS at room temperature between 59° and 86°F (15° and 30°C).
- **Keep CIALIS and all medicines out of the reach of children.**

General Information about CIALIS:

Medicines are sometimes prescribed for conditions other than those described in patient information leaflets. Do not use CIALIS for a condition for which it was not prescribed. Do not give CIALIS to other people, even if they have the same symptoms that you have. It may harm them.

This leaflet summarizes the most important information about CIALIS. If you would like more information, talk with your healthcare provider. You can ask your doctor or pharmacist for information about CIALIS that is written for health professionals.

For more information you can also visit www.cialis.com, or call 1-877-242-5471.

What are the ingredients of CIALIS?

Active Ingredient: tadalafil

Inactive Ingredients: croscarmellose sodium, hydroxypropyl cellulose, hypromellose, iron oxide, lactose monohydrate, magnesium stearate, microcrystalline cellulose, sodium lauryl sulfate, talc, titanium dioxide, and triacetin.

Rx only

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THIS MONTH IN HISTORY

MAY ANNIVERSARIES—MOMENTOUS OR MERELY MEMORABLE

200 YEARS AGO:
ABLE WAS I . . .
Affirming a plebiscite vote, the French Senate proclaims France an empire and Napoleon Bonaparte its emperor May 18, 1804. As the "little colonel" battles to conquer the rest of Europe, he imposes a standardized civil code, a legacy that will outlast his reign, which ends in his exile in 1815.

50 YEARS AGO:
ON THE FAST TRACK
Despite winds gusting across the Oxford, England, track, Roger Bannister, 25, surges through the "sound barrier" of sport to become the first person to break the four-minute mile. "Once I started to run I forgot everything," says the medical student, whose record 3:59.4 time will stand for only a month. Today, Bannister, a retired neurologist, lobbies against the use of steroids in sports.

100 YEARS AGO:
HOW DOES IT KNOW?
Invented by physicist James Dewar in 1892, the Thermos first goes on sale for commercial and home use in May 1904, in Germany. A vacuum separating an inner and outer flask impedes heat transfer, keeping contents, ranging from strong coffee to human tissue, hot or cold. By 2004, four out of five Americans will own a Thermos.

50 YEARS AGO: EQUAL, NOT SEPARATE
Plaintiff's attorneys (left) in the case of Brown v. Board of Education of Topeka, Kansas, stand victorious as the U.S. Supreme Court unanimously rules to end state-sanctioned segregation in public schools on May 17, 1954. "Separate but equal" policies, declares Justice Earl Warren, violate the 14th Amendment. Integration will take decades, and will still be hotly debated in 2004.

160 YEARS AGO: T-MAIL
Samuel F.B. Morse transmits the first message across his electric telegraph line from Washington, D.C. to Baltimore on May 24, 1844. Keying "What hath God wrought!" in the dot and dash code that will immortalize his name, Morse proves the practicality of his system, which within ten years will connect American cities over 23,000 miles of wire.

—ALISON McLEAN

250 YEARS AGO:
MARCHING TO WAR
Forty men led by Lt. Col. George Washington and Half King, a Seneca chief, skirmish with French soldiers in the Ohio country on May 28, 1754, igniting the French and Indian War. Debts resulting from Britain's nine-year battle with France over North America prompt taxes that lead to another skirmish: the Revolution.

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Supremely Wilde

How an 1882 portrait of the flamboyant man of letters reached the highest court in the land and changed U.S. law forever ~ BY MITCH TUCHMAN

EVEN WITH HIS prodigious talent for notoriety, it is doubtful Oscar Wilde could have inveigled the United States Supreme Court into featuring his image in a landmark judicial decision. But this portrait of Wilde—taken in New York City in 1882, when he was just 27 and still years from writing *The Picture of Dorian Gray* and *The Importance of Being Earnest*—would become the centerpiece of a legal dispute that ultimately resolved the question of whether a photograph can be copyrighted.

The photograph was made by the preeminent New York studio photographer Napoleon Sarony. Born in Quebec City in 1821, he moved at 15 to New York City and apprenticed with several lithographers, including Nathaniel Currier of Currier and Ives fame. Sarony abandoned lithography for photography in 1864, just as a craze for celebrity portraiture began. He attracted a clientele of notables and paid them dearly for the exclusive right to distribute photographs of them. (A session with the actress Sarah Bernhardt, for instance, cost him $1,500, the equivalent of more than $20,000 today.) Sarony specialized in dramatic, flattering images that ensured access to lucrative subjects.

Enter Oscar Wilde. In London after graduating from Oxford University in 1878, he pursued with equal vigor everyone who was anyone, and was prominent in the aesthetic movement, which advocated "art for art's sake." He was mentioned regularly in the humor magazine *Punch* and inspired a character in Gilbert and Sullivan's lampoon of the aesthetes,

"A picturesque subject indeed!" Sarony said before making the photograph, *Oscar Wilde, No. 18*, that figured in a historic lawsuit.

LIBRARY OF CONGRESS

Sarony turned the solemn tradition of photographing the justices on its ear.

In 1890, six years after the Supreme Court first upheld copyright protection for photographs by ruling for Sarony (below, in 1866 at age 45), the justices sat for him.

Patience, which opened in New York City in 1881. The producer, Richard D'Oyly Carte, exported Wilde to America on a lecture tour, to promote regional performances of the opera. Upon entering the country in January 1882, Wilde supposedly quipped, "I have nothing to declare but my genius."

"A picturesque subject indeed!" Sarony cried when Wilde showed up at his studio. He posed for no fewer than 27 pictures: in a fur-lined overcoat, in evening dress, and most significantly, in a velvet jacket with ribbon piping, knee breeches, silk stockings and gleaming pumps. It was an ordinary studio portrait—and yet, at second glance, a bizarre composition in which Wilde resembles a marionette, with Sarony having snipped the strings.

No one anticipated the sensation Wilde would cause in America, standing on stages from New York to California in velvet knickers and wittily extolling blue-and-white porcelain as the tasteful choice for frontier homes. Fifty scheduled lectures grew to 140. He was celebrated and caricatured. The title of his first Manhattan lecture, "The English Renaissance," was expropriated by Ehrich Bros., a New York department store, to trumpet a line of hats; an advertisement used an unauthorized reproduction of *Oscar Wilde, No. 18.*

Sarony sued, accusing Ehrich Bros.' printer, Burrow-Giles Lithographic Co., of infringing his copyright by reproducing at least 85,000 copies of the image. The district court in New York found the defendant guilty of piracy, but on appeal to the Supreme Court in 1884, Burrow-Giles argued that photographs were ineligible for copyright protection because the Constitution permits Congress to protect authors' writings, and photographs are neither writings nor the work of authors; instead, they are mere reproductions of nature, created by the operator of a machine.

The court didn't buy it. If Congress had intended copyrights to be so narrowly applied, Justice Samuel Miller wrote for the majority, it would not have extended protection to maps and charts in its first copyright act, in 1790 (nearly half a century before the invention of photography). And an author, he added, is simply the one "to whom anything owes its origin."

In the end, the court ruled that Sarony's portrait of Wilde was "an original work of art, the product of plaintiff's intellectual invention, of which plaintiff is the author, and of a class of inventions for which the Constitution intended that Congress should secure to him the exclusive right to use, publish and sell. . . . " The ruling has made Burrow-Giles Lithographic Company v. Sarony a perennial of jurisprudence, cited by courts to this day in determining what works can be copyrighted, what is fair use of copyrighted material and how long a copyright should endure. (None of the readily available sources indicate whether Wilde, who died in 1900 at age 46, was aware of his cameo role in U.S. legal history.)

In a dramatic twist, Sarony (who died prosperous in 1896 at age 75) would illustrate the court's opinion when its members sat for him during their visit to New York in 1890 to celebrate the federal judiciary's centennial. In the past, photographers had generally portrayed the justices in faux library settings, amid a judicious selection of carpets, columns and book-lined backdrops. With a rumpled carpet and draperies flung over bales of hay in a fanciful conservatory, Sarony turned that solemn tradition on its ear, producing an astonishing photograph masquerading as an ordinary one. As in his Oscar Wilde picture, he subverted ordinary portraiture to create a work that, as Justice Miller had perceived, came directly from his intellectual invention.

MITCH TUCHMAN is an attorney in Research Triangle Park, North Carolina.

COLLECTION OF THE SUPREME COURT OF THE UNITED STATES; PICTURE HISTORY

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On Clipped Wings

As America's first black military pilots, Tuskegee airmen faced a battle against racism – BY KEITH WELDON MEDLEY

AS A PIPER CHEROKEE 235 cut through a cloudless Alabama sky and began its descent, Moton Field emerged beyond a cluster of pine trees. Sixty years ago, several hundred young men began their training here to become America's first black military pilots. Now, every Memorial Day, in an event that got its start more than three decades ago, ever-dwindling members of those pioneering World War II veterans return to Moton for a fly-in to remember their struggles and triumphs.

On the ground, 14 Tuskegee veterans made their way gingerly around the airfield, stopping to gaze fondly at a vintage Stearman PT-17, the type of plane in which they earned their wings.

Located two miles from the city of Tuskegee, Moton Field today serves as a municipal airport. But it still exudes history. Behind a wire fence adjacent to the terminal, Moton's vintage buildings—most notably a crumbling tower and a boarded-up brick hangar—await restoration as part of the National Park Service's Tuskegee Airmen National Historic Site, scheduled to open in 2008.

"Veteran, well-led, sure of itself," *Time* magazine said in 1944 of the first squadron of Tuskegee-trained fighter pilots (in Italy during World War II).

At last year's reunion, Hiram Mann, now 82 and a retired lieutenant colonel, needed a cane to get around the airfield. But as a young pilot, he flew 48 escort and strafing missions in Italy. "You don't know how nervous you are until the excitement is over," he said, recalling how, during his first strafing mission, he chewed two sticks of gum to "a mouthful of little BBs." Getting a chance to prove his mettle was not easy, however, and he still bristles over a letter he got from the War Department when he first applied to be a pilot. "It said, 'We have no facilities to train Negroes.'"

Before World War II, blacks in the armed forces were typically assigned to kitchen duty, road construction and menial noncombat duties. As the conflict in Europe intensified, the NAACP and black newspapers urged wider African-American participation in the war effort. In early 1941, First Lady Eleanor Roosevelt, who had heard about the school's civilian pilot program, visited Tuskegee Institute, a college established for blacks in 1881. She took a 40-minute flight with Charles Alfred Anderson, the African-American pilot who taught the course. A photograph of a smiling Mrs. Roosevelt in the back of Anderson's Cessna appeared in newspapers across the country and gave aspiring black pilots reason to hope.

Later that year, the Army Air Corps opened Moton Field, four miles from the college, as a training facility for black men. The first 13 cadets lived in the Tuskegee Institute dormitories and took their basic flight instruction from Anderson.

Charles Dryden left New York's City College to join Moton's second class of cadets in late July 1941. He remembers the airfield as little more than "a flat meadow with no runways." In 1942, Dryden would lead five planes on a bombing run over the Italian island of Pantelleria in the Mediterranean. In five months overseas, he would complete 30 mis-

BETTMANN / CORBIS; ELIZABETH WOLF

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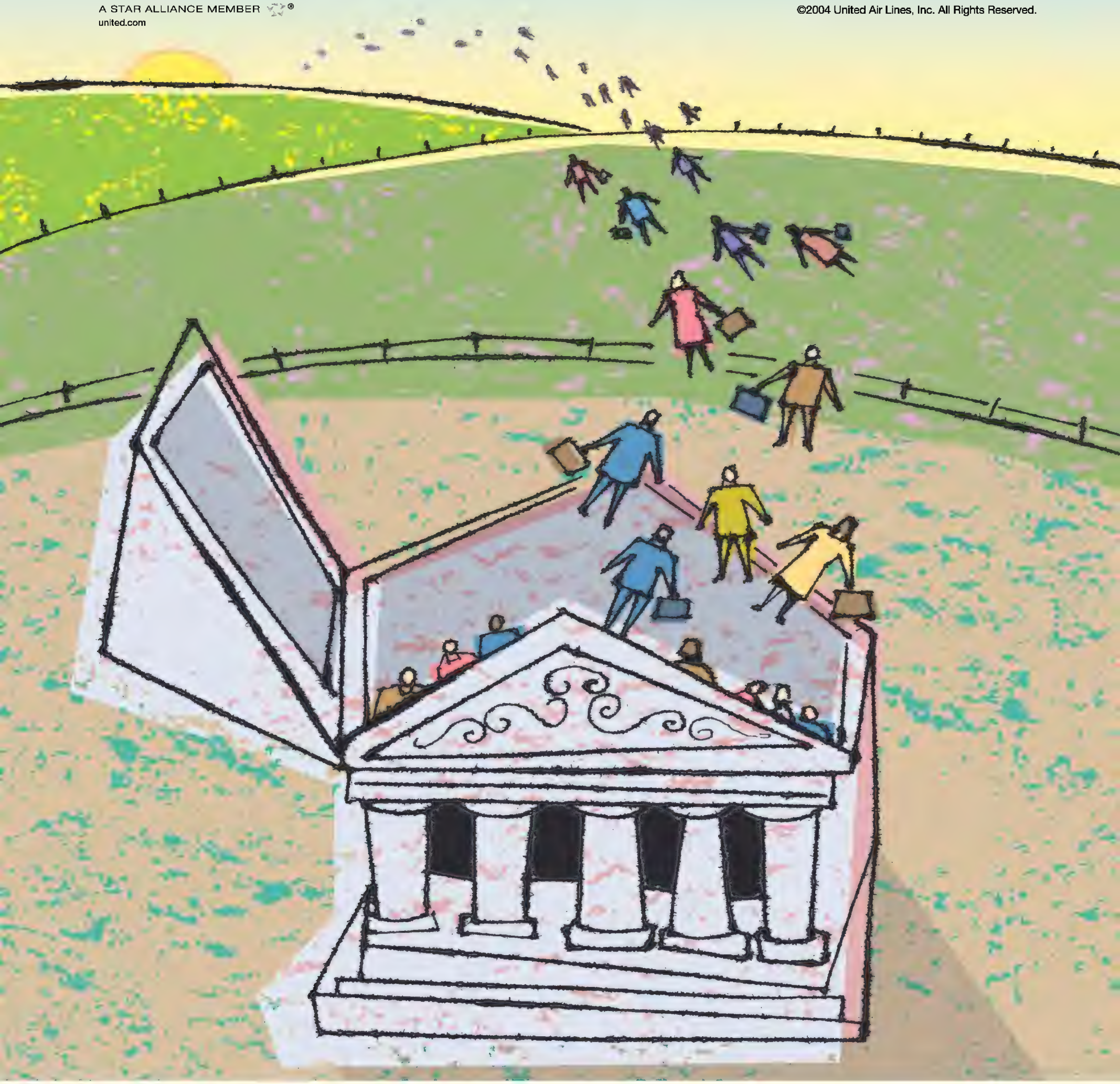

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sions. White officers "had no faith in us whatsoever," Dryden, now 83, said at the reunion, "so it was a baptism of fire to discover what kind of warriors we were. We dared not fail."

After successfully completing a mission, "there was a great deal of pride that you had measured up," recalled retired Lt. Col. Harry Stewart, now 79. He graduated from the Tuskegee program in June 1944. "When I was a boy in New York City," he said, "I dreamed of doing something daring and important when I grew up. We all aspired to fly." While serving in Italy, he shot down three enemy aircraft on 43 missions, earning a Distinguished Flying Cross and an Air Medal.

After training for 8 to 10 months, graduates of the Air Corps' Tuskegee program formed the nation's first all-black unit, the 99th Fighter Squadron. Deployed to Africa in 1943, the 99th flew its first combat mission in June 1943. A month later, it downed its first enemy aircraft, a German Focke-Wulf Fw-190. But several months would pass before a black airman destroyed another enemy plane, prompting criticism from top brass that the unit "failed to display the aggressiveness . . . necessary to a first class fighting organization"; some officers recommended that the unit be removed from combat.

In October, the squadron's African-American commander, Col. Benjamin O. Davis Jr., was called to testify before a War Department committee. "The 99th had performed as well as any new fighter squadron, black or white," Davis argued, citing manpower shortages and unfamiliarity with the territory. "It would have been hopeless for me to stress the hostility and racism of whites," Davis later wrote. "I had to adopt a quiet, reasoned approach, presenting the facts." His calm defense saved the day—and the unit.

The 99th's fortunes began to change on January 27, 1944. During a morning patrol of Italy's Ponziane Islands, the squadron came to the aid of Allied ships under German fire, destroying six aircraft and damaging four in a fiery battle over the Mediterranean. The Tuskegee airmen successfully engaged the enemy again that afternoon and the next day, and continued to score a string of victories, finally silencing the critics. *Time* magazine called the unit "veteran, well-led, sure of itself."

By war's end, some 450 of the 992 airmen trained at Tuskegee had served overseas, completing 1,578 missions, destroying 260 enemy planes and sinking a German battleship. In some 200 escort missions, they never lost a single bomber to the enemy. They earned 95 Distinguished Flying Crosses, a Distinguished Unit Citation and 8 Purple Hearts. There were sacrifices. Sixty-six Tuskegee airmen were killed in action and 32 became prisoners of war. "Their performance during the war influenced president Harry S. Truman to sign an executive order [in 1948] making integration in the military a reality," said Col. Roosevelt Lewis, who runs the Tuskegee airport and helps keep the pilots' legacy alive. "The Tuskegee airmen laid the foundation for the modern civil rights movement."

Tuskegee poster pilot Robert Deiz downed two German aircraft in 1944.

In 1998, the National Park Service established the Tuskegee Airmen National Historic Site at Moton Field and in 2002 opened a temporary visitor's center on a hill overlooking the airfield. The triple-wide trailer is lined with 1940s-era photographs of airmen in pressed khakis attending classes and at graduation ceremonies, and in bomber jackets, hoods and goggles, posing with aircraft as they prepare for war.

The park service's $29 million plan to restore Moton Field and its historic buildings includes a 90-acre park and a hangar to serve as a museum, complete with some of the unit's original planes. "We're going aircraft shopping," said Susan Gibson, then a park service representative. "There are quite a few of the originals out there. We're doing extensive research into the minutiae; the paint, the plants, the bricks that were here; even the mortar will be the same."

With completion of the restoration at least four years away and many of the Tuskegee pilots in their 80s, the long-range plan is a critical issue, Gibson said. "The airmen's story without the airmen is a different story. That's why it's so important that we get this done quickly and beautifully."

"We're losing the guys fast," said Dryden, who wrote about his war years in a 1997 book, *A-Train: Memoirs of a Tuskegee Airman*. He attends most of the fly-ins and gives talks around the country. "It's a sentimental journey," he said, but Tuskegee's legacy has lessons for the present and future.

"The reunions are an inspiration to black youth," Dryden added. With African-Americans today making up just 2.5 percent of the Navy's pilots and 2 percent of the Air Force's, one of the event's themes is encouraging minorities to consider careers in aviation. Opening doors for others, Dryden said, "was the greatest motivation that kept us going."

Moton Field "is the nest," Lewis added. "This is where black aviation took giant leaps."

KEITH WELDON MEDLEY is the author of We as Freemen: Plessy v. Ferguson.

DAVID POLLACK / CORBIS

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If you take LIPITOR, tell your doctor if you feel any new muscle pain or weakness. This could be a sign of serious side effects. Tell your doctor about all the medicines you take. This may help avoid serious drug interactions. Your doctor may do blood tests to check your liver function before and during treatment. The most common side effects are gas, constipation, stomach pain, and heartburn. They tend to be mild and often go away.

Please see additional important information on next page.

LIPITOR® (Atorvastatin Calcium) Tablets

Brief Summary of Prescribing Information

CONTRAINDICATIONS: Active liver disease or unexplained persistent elevations of serum transaminases. Hypersensitivity to any component of this medication. **Pregnancy and Lactation** — Atherosclerosis is a chronic process and discontinuation of lipid-lowering drugs during pregnancy should have little impact on the outcome of long-term therapy of primary hypercholesterolemia. Cholesterol and other products of cholesterol biosynthesis are essential components for fetal development (including synthesis of steroids and cell membranes). Since HMG-CoA reductase inhibitors decrease cholesterol synthesis and possibly the synthesis of other biologically active substances derived from cholesterol, they may cause fetal harm when administered to pregnant women. Therefore, HMG-CoA reductase inhibitors are contraindicated during pregnancy and in nursing mothers. ATORVASTATIN SHOULD BE ADMINISTERED TO WOMEN OF CHILDBEARING AGE ONLY WHEN SUCH PATIENTS ARE HIGHLY UNLIKELY TO CONCEIVE AND HAVE BEEN INFORMED OF THE POTENTIAL HAZARDS. If the patient becomes pregnant while taking this drug, therapy should be discontinued and the patient apprised of the potential hazard to the fetus.

WARNINGS: Liver Dysfunction — HMG-CoA reductase inhibitors, like some other lipid-lowering therapies, have been associated with biochemical abnormalities of liver function. **Persistent elevations (>3 times the upper limit of normal [ULN] occurring on 2 or more occasions) in serum transaminases occurred in 0.7% of patients who received atorvastatin in clinical trials. The incidence of these abnormalities was 0.2%, 0.2%, 0.6%, and 2.3% for 10, 20, 40, and 80 mg, respectively.** One patient in clinical trials developed jaundice. Increases in liver function tests (LFT) in other patients were not associated with jaundice or other clinical signs or symptoms. Upon dose reduction, drug interruption, or discontinuation, transaminase levels returned to or near pretreatment levels without sequelae. Eighteen of 30 patients with persistent LFT elevations continued treatment with a reduced dose of atorvastatin. **It is recommended that liver function tests be performed prior to and at 12 weeks following both the initiation of therapy and any elevation of dose, and periodically (eg, semiannually) thereafter.** Liver enzyme changes generally occur in the first 3 months of treatment with atorvastatin. Patients who develop increased transaminase levels should be monitored until the abnormalities resolve. Should an increase in ALT or AST of >3 times ULN persist, reduction of dose or withdrawal of atorvastatin is recommended. Atorvastatin should be used with caution in patients who consume substantial quantities of alcohol and/or have a history of liver disease. Active liver disease or unexplained persistent transaminase elevations are contraindications to the use of atorvastatin (see CONTRAINDICATIONS). **Skeletal Muscle — Rare cases of rhabdomyolysis with acute renal failure secondary to myoglobinuria have been reported with atorvastatin and with other drugs in this class.** Uncomplicated myalgia has been reported in atorvastatin-treated patients (see ADVERSE REACTIONS). Myopathy, defined as muscle aches or muscle weakness in conjunction with increases in creatine phosphokinase (CPK) values >10 times ULN, should be considered in any patient with diffuse myalgias, muscle tenderness or weakness, and/or marked elevation of CPK. Patients should be advised to report promptly unexplained muscle pain, tenderness or weakness, particularly if accompanied by malaise or fever. Atorvastatin therapy should be discontinued if markedly elevated CPK levels occur or myopathy is diagnosed or suspected. The risk of myopathy during treatment with drugs in this class is increased with concurrent administration of cyclosporine, fibric acid derivatives, erythromycin, niacin, or azole antifungals. Physicians considering combined therapy with atorvastatin and fibric acid derivatives, erythromycin, immunosuppressive drugs, azole antifungals, or lipid-lowering doses of niacin should carefully weigh the potential benefits and risks and should carefully monitor patients for any signs or symptoms of muscle pain, tenderness, or weakness, particularly during the initial months of therapy and during any periods of upward dosage titration of either drug. Periodic creatine phosphokinase (CPK) determinations may be considered in such situations, but there is no assurance that such monitoring will prevent the occurrence of severe myopathy. **Atorvastatin therapy should be temporarily withheld or discontinued in any patient with an acute, serious condition suggestive of a myopathy or having a risk factor predisposing to the development of renal failure secondary to rhabdomyolysis (eg, severe acute infection, hypotension, major surgery, trauma, severe metabolic, endocrine and electrolyte disorders, and uncontrolled seizures).**

PRECAUTIONS: General — Before instituting therapy with atorvastatin, an attempt should be made to control hypercholesterolemia with appropriate diet, exercise, and weight reduction in obese patients, and to treat other underlying medical problems (see INDICATIONS AND USAGE in full prescribing information). **Information for Patients** — Patients should be advised to report promptly unexplained muscle pain, tenderness, or weakness, particularly if accompanied by malaise or fever. **Drug Interactions** — The risk of myopathy during treatment with drugs of this class is increased with concurrent administration of cyclosporine, fibric acid derivatives, niacin (nicotinic acid), erythromycin, azole antifungals (see WARNINGS, Skeletal Muscle). ***Antacid:*** When atorvastatin and Maalox® TC suspension were coadministered, plasma concentrations of atorvastatin decreased approximately 35%. However, LDL-C reduction was not altered. ***Antipyrine:*** Because atorvastatin does not affect the pharmacokinetics of antipyrine, interactions with other drugs metabolized via the same cytochrome isozymes are not expected. ***Colestipol:*** Plasma concentrations of atorvastatin decreased approximately 25% when colestipol and atorvastatin were coadministered. However, LDL-C reduction was greater when atorvastatin and colestipol were coadministered than when either drug was given alone. ***Cimetidine:*** Atorvastatin plasma concentrations and LDL-C reduction were not altered by coadministration of cimetidine. ***Digoxin:*** When multiple doses of atorvastatin and digoxin were coadministered, steady-state plasma digoxin concentrations increased by approximately 20%. Patients taking digoxin should be monitored appropriately. ***Erythromycin:*** In healthy individuals, plasma concentrations of atorvastatin increased approximately 40% with coadministration of atorvastatin and erythromycin, a known inhibitor of cytochrome P450 3A4 (see WARNINGS, Skeletal Muscle). ***Oral Contraceptives:*** Coadministration of atorvastatin and an oral contraceptive increased AUC values for norethindrone and ethinyl estradiol by approximately 30% and 20%. These increases should be considered when selecting an oral contraceptive for a woman taking atorvastatin. ***Warfarin:*** Atorvastatin had no clinically significant effect on prothrombin time when administered to patients receiving chronic warfarin treatment. **Endocrine Function** — HMG-CoA reductase inhibitors interfere with cholesterol synthesis and theoretically might blunt adrenal and/or gonadal steroid production. Clinical studies have shown that atorvastatin does not reduce basal plasma cortisol concentration or impair adrenal reserve. The effects of HMG-CoA reductase inhibitors on male fertility have not been studied in adequate numbers of patients. The effects, if any, on the pituitary-gonadal axis in premenopausal women are unknown. Caution should be exercised if an HMG-CoA reductase inhibitor is administered concomitantly with drugs that may decrease the levels or activity of endogenous steroid hormones, such as ketoconazole, spironolactone, and cimetidine. **CNS Toxicity** — Brain hemorrhage was seen in a female dog treated for 3 months at 120 mg/kg/day. Brain hemorrhage and optic nerve vacuolation were seen in another female dog that was sacrificed in moribund condition after 11 weeks of escalating doses up to 280 mg/kg/day. The 120 mg/kg dose resulted in a systemic exposure approximately 16 times the human plasma area-under-the-curve (AUC, 0-24 hours) based on the maximum human dose of 80 mg/day. A single tonic convulsion was seen in each of 2 male dogs (one treated at 10 mg/kg/day and one at 120 mg/kg/day) in a 2-year study. No CNS lesions have been observed in mice after chronic treatment for up to 2 years at doses up to 400 mg/kg/day or in rats at doses up to 100 mg/kg/day. These doses were 6 to 11 times (mouse) and 8 to 16 times (rat) the human AUC (0-24) based on the maximum recommended human dose of 80 mg/day. CNS vascular lesions, characterized by perivascular hemorrhages, edema, and mononuclear cell infiltration of perivascular spaces, have been observed in dogs treated with other members of this class. A chemically similar drug in this class produced optic nerve degeneration (Wallerian degeneration of retinogeniculate fibers) in clinically normal dogs in a dose-dependent fashion at a dose that produced plasma drug levels about 30 times higher than the mean drug level in humans taking the highest recommended dose. **Carcinogenesis, Mutagenesis, Impairment of Fertility** — In a 2-year carcinogenicity study in rats at dose levels of 10, 30, and 100 mg/kg/day, 2 rare tumors were found in muscle in high-dose females: in one, there was a rhabdomyosarcoma and, in another, there was a fibrosarcoma. This dose represents a plasma AUC (0-24) value of approximately 16 times the mean human plasma drug exposure after an 80 mg oral dose. A 2-year carcinogenicity study in mice given 100, 200, or 400 mg/kg/day resulted in a significant increase in liver adenomas in high-dose males and liver carcinomas in high-dose females. These findings occurred at plasma AUC (0-24) values of approximately 6 times the mean human plasma drug exposure after an 80 mg oral dose. *In vitro,* atorvastatin was not mutagenic or clastogenic in the following tests with and without metabolic activation: the Ames test with *Salmonella typhimurium* and *Escherichia coli*, the HGPRT forward mutation assay in Chinese hamster lung cells, and the chromosomal aberration assay in Chinese hamster lung cells. Atorvastatin was negative in the *in vivo* mouse micronucleus test. Studies in rats performed at doses up to 175 mg/kg (15 times the human exposure) produced no changes in fertility. There was aplasia and aspermia in the epididymis of 2 of 10 rats treated with 100 mg/kg/day of atorvastatin for 3 months (16 times the human AUC at the 80 mg dose); testis weights were significantly lower at 30 and 100 mg/kg and epididymal weight was lower at 100 mg/kg. Male rats given 100 mg/kg/day for 11 weeks prior to mating had decreased sperm motility, spermatid head concentration, and increased abnormal sperm. Atorvastatin caused no adverse effects on semen parameters, or reproductive organ histopathology in dogs given doses of 10, 40, or 120 mg/kg for two years. **Pregnancy — Pregnancy Category X: See CONTRAINDICATIONS.** Safety in pregnant women has not been established. Atorvastatin crosses the rat placenta and reaches a level in fetal liver equivalent to that of maternal plasma. Atorvastatin was not teratogenic in rats at doses up to 300 mg/kg/day or in rabbits at doses up to 100 mg/kg/day. These doses resulted in multiples of about 30 times (rat) or 20 times (rabbit) the human exposure based on surface area (mg/m^2). In a study in rats given 20, 100, or 225 mg/kg/day, from gestation day 7 through to lactation day 21 (weaning), there was decreased pup survival at birth, neonate, weaning, and maturity in pups of mothers dosed with 225 mg/kg/day. Body weight was decreased on days 4 and 21 in pups of mothers dosed at 100 mg/kg/day; pup body weight was decreased at birth and at days 4, 21, and 91 at 225 mg/kg/day. Pup development was delayed (rotorod performance at 100 mg/kg/day and acoustic startle at 225 mg/kg/day; pinnae detachment and eye opening at 225 mg/kg/day). These doses correspond to 6 times (100 mg/kg) and 22 times (225 mg/kg) the human AUC at 80 mg/day. Rare reports of congenital anomalies have been received following intrauterine exposure to HMG-CoA reductase inhibitors. There has been one report of severe congenital bony deformity, tracheo-esophageal fistula, and anal atresia (VATER association) in a baby born to a woman who took lovastatin with dextroamphetamine sulfate during the first trimester of pregnancy. LIPITOR should be administered to women of child-bearing potential only when such patients are highly unlikely to conceive and have been informed of the potential hazards. If the woman becomes pregnant while taking LIPITOR, it should be discontinued and the patient advised again as to the potential hazards to the fetus. **Nursing Mothers** — Nursing rat pups had plasma and liver drug levels of 50% and 40%, respectively, of that in their mother's milk. Because of the potential for adverse reactions in nursing infants, women taking LIPITOR should not breast-feed (see CONTRAINDICATIONS). **Pediatric Use** — Safety and effectiveness in patients 10-17 years of age with heterozygous familial hypercholesterolemia have been evaluated in a controlled clinical trial of 6 months duration in adolescent boys and postmenarchal girls. Patients treated with LIPITOR had an adverse experience profile generally similar to that of patients treated with placebo, the most common adverse experiences observed in both groups, regardless of causality assessment, were infections. **Doses greater than 20 mg have not been studied in this patient population.** In this limited controlled study, there was no detectable effect on growth or sexual maturation in boys or on menstrual cycle length in girls (see CLINICAL PHARMACOLOGY, Clinical Studies section in full prescribing information; ADVERSE REACTIONS, Pediatric Patients (ages 10-17 years); and DOSAGE AND ADMINISTRATION, Heterozygous Familial Hypercholesterolemia in Pediatric Patients (10-17 years of age) in full prescribing information. Adolescent females should be counseled on appropriate contraceptive methods while on LIPITOR therapy (see CONTRAINDICATIONS and PRECAUTIONS, Pregnancy). **LIPITOR has not been studied in controlled clinical trials involving pre-pubertal patients or patients younger than 10 years of age.** Clinical efficacy with doses up to 80 mg/day for 1 year have been evaluated in an uncontrolled study of patients with homozygous FH including 8 pediatric patients (see CLINICAL PHARMACOLOGY, *Clinical Studies: Homozygous Familial Hypercholesterolemia* in full prescribing information). **Geriatric Use** — The safety and efficacy of atorvastatin (10-80 mg) in the geriatric population (≥65 years of age) was evaluated in the ACCESS study. In this 54-week open-label trial 1,958 patients initiated therapy with atorvastatin 10 mg. Of these, 835 were elderly (≥65 years) and 1,123 were non-elderly. The mean change in LDL-C from baseline after 6 weeks of treatment with atorvastatin 10 mg was -38.2% in the elderly patients versus -34.6% in the non-elderly group. The rates of discontinuation due to adverse events were similar between the two age groups. There were no differences in clinically relevant laboratory abnormalities between the age groups.

ADVERSE REACTIONS: LIPITOR is generally well-tolerated. Adverse reactions have usually been mild and transient. In controlled clinical studies of 2502 patients, <2% of patients were discontinued due to adverse experiences attributable to atorvastatin. The most frequent adverse events thought to be related to atorvastatin were constipation, flatulence, dyspepsia, and abdominal pain. **Clinical Adverse Experiences** — Adverse experiences reported in >2% of patients in placebo-controlled clinical studies of atorvastatin, regardless of causality assessment, are shown in the following table.

Adverse Events in Placebo-Controlled Studies (% of Patients)

BODY SYSTEM Adverse Event	Placebo N = 270	Atorvastatin 10 mg N = 863	Atorvastatin 20 mg N = 36	Atorvastatin 40 mg N = 79	Atorvastatin 80 mg N = 94
BODY AS A WHOLE					
Infection	10.0	10.3	2.8	10.1	7.4
Headache	7.0	5.4	16.7	2.5	6.4
Accidental Injury	3.7	4.2	0.0	1.3	3.2
Flu Syndrome	1.9	2.2	0.0	2.5	3.2
Abdominal Pain	0.7	2.8	0.0	3.8	2.1
Back Pain	3.0	2.8	0.0	3.8	1.1
Allergic Reaction	2.6	0.9	2.8	1.3	0.0
Asthenia	1.9	2.2	0.0	3.8	0.0
DIGESTIVE SYSTEM					
Constipation	1.8	2.1	0.0	2.5	1.1
Diarrhea	1.5	2.7	0.0	3.8	5.3
Dyspepsia	4.1	2.3	2.8	1.3	2.1
Flatulence	3.3	2.1	2.8	1.3	1.1
RESPIRATORY SYSTEM					
Sinusitis	2.6	2.8	0.0	2.5	6.4
Pharyngitis	1.5	2.5	0.0	1.3	2.1
SKIN AND APPENDAGES					
Rash	0.7	3.9	2.8	3.8	1.1
MUSCULOSKELETAL SYSTEM					
Arthralgia	1.5	2.0	0.0	5.1	0.0
Myalgia	1.1	3.2	5.6	1.3	0.0

The following adverse events were reported, regardless of causality assessment in patients treated with atorvastatin in clinical trials. The events in *italics* occurred in ≥2% of patients and the events in plain type occurred in <2% of patients.

Body as a Whole: *Chest pain,* face edema, fever, neck rigidity, malaise, photosensitivity reaction, generalized edema. ***Digestive System:*** *Nausea,* gastroenteritis, liver function tests abnormal, colitis, vomiting, gastritis, dry mouth, rectal hemorrhage, esophagitis, eructation, glossitis, mouth ulceration, anorexia, increased appetite, stomatitis, biliary pain, cheilitis, duodenal ulcer, dysphagia, enteritis, melena, gum hemorrhage, stomach ulcer, tenesmus, ulcerative stomatitis, hepatitis, pancreatitis, cholestatic jaundice. ***Respiratory System:*** *Bronchitis, rhinitis,* pneumonia, dyspnea, asthma, epistaxis. ***Nervous System:*** *Insomnia, dizziness,* paresthesia, somnolence, amnesia, abnormal dreams, libido decreased, emotional lability, incoordination, peripheral neuropathy, torticollis, facial paralysis, hyperkinesia, depression, hypesthesia, hypertonia. ***Musculoskeletal System:*** *Arthritis,* leg cramps, bursitis, tenosynovitis, myasthenia, tendinous contracture, myositis. ***Skin and Appendages:*** Pruritus, contact dermatitis, alopecia, dry skin, sweating, acne, urticaria, eczema, seborrhea, skin ulcer. ***Urogenital System:*** *Urinary tract infection,* urinary frequency, cystitis, hematuria, impotence, dysuria, kidney calculus, nocturia, epididymitis, fibrocystic breast, vaginal hemorrhage, albuminuria, breast enlargement, metrorrhagia, nephritis, urinary incontinence, urinary retention, urinary urgency, abnormal ejaculation, uterine hemorrhage. ***Special Senses:*** Amblyopia, tinnitus, dry eyes, refraction disorder, eye hemorrhage, deafness, glaucoma, parosmia, taste loss, taste perversion. ***Cardiovascular System:*** Palpitation, vasodilatation, syncope, migraine, postural hypotension, phlebitis, arrhythmia, angina pectoris, hypertension. ***Metabolic and Nutritional Disorders:*** *Peripheral edema,* hyperglycemia, creatine phosphokinase increased, gout, weight gain, hypoglycemia. ***Hemic and Lymphatic System:*** Ecchymosis, anemia, lymphadenopathy, thrombocytopenia, petechia. **Postintroduction Reports** — Adverse events associated with LIPITOR therapy reported since market introduction, that are not listed above, regardless of causality assessment, include the following: anaphylaxis, angioneurotic edema, bullous rashes (including erythema multiforme, Stevens-Johnson syndrome, and toxic epidermal necrolysis), and rhabdomyolysis. **Pediatric Patients (ages 10-17 years)** In a 26-week controlled study in boys and postmenarchal girls (n=140), the safety and tolerability profile of LIPITOR 10 to 20 mg daily was generally similar to that of placebo (see CLINICAL PHARMACOLOGY, *Clinical Studies section* in full prescribing information and PRECAUTIONS, *Pediatric Use*).

OVERDOSAGE: There is no specific treatment for atorvastatin overdosage. In the event of an overdose, the patient should be treated symptomatically, and supportive measures instituted as required. Due to extensive drug binding to plasma proteins, hemodialysis is not expected to significantly enhance atorvastatin clearance.

Please see full prescribing information for additional information about LIPITOR.

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A Mine of Its Own

Where miners used to dig, an endangered bat now flourishes, highlighting a new use for abandoned mineral sites ~ BY DOUGLAS H. CHADWICK

ONE DECEMBER afternoon, we walk straight into the hill, trading the winter woodland's gray light for a shadow world of stone. The air grows still and moist. The tunnel divides, turns, then divides again. Suddenly, the darkness is so dense I feel I have to push it aside, only to have it close in behind me. Most of the passageways are roomy enough—about 20 feet high and 30 feet wide—to keep claustrophobia at bay.

We are inside the Magazine Mine, part of a 2,100-acre property near Tamms, Illinois, owned by UNIMIN Specialty Minerals Inc. The company worked the mine from 1972 to 1980, digging 20 acres of tunnels reaching as deep as 300 feet to extract microcrystalline silica, a fine quartz sand used in products like lens polish, paint and pool cue chalk.

The first bats we see are tiny, grayish, thickly furred Eastern pipistrelles. They're hibernating, hanging upside down with their wings folded. Beads of condensation coat their fur. In the light of our headlamps, they look like strange, glistening underworld fruits. Farther along are Northern long-eared bats, big brown bats and little brown bats. At last we come to Indiana bats, *Myotis sodalis*, no larger than mice, huddled in groups of one or two dozen. The animal's pink nose distinguishes it from other small, brownish bats.

Then, on the upper curve of a light-colored wall is what appears to be a tacked-up beaver pelt. But in actuality, it's more Indiana bats—about 2,000 of them, says Joe Kath, a biologist with the Illinois Department of Natural Resources and the leader of our subterranean expedition. "From photographs, we've counted 300 animals per square foot in clusters like this," he says, "and sometimes as many as 500." Each furry throng we encounter bodes well for the Indiana bat, which has been classified as endangered since 1967, and also for the Bats and Mines Project, an unusual collaboration between conservationists and industry officials.

Out of the roughly 5,416 known species of warmblooded, milk-producing vertebrates, at least 1,100 are in the order Chiroptera, Latin for "hand-wing." In other words, about one out of every five kinds of mammal belongs to the much-reviled and still poorly understood group we call bats. North America is home to 46 bat species; most are insectivorous,

MERLIN D. TUTTLE / BAT CONSERVATION INTERNATIONAL

Many of the 46 bat species in North America (an Indiana bat, about half its actual size) are threatened by loss of hibernation sites.

with some consuming more than their weight in bugs in a matter of hours, and most have undergone substantial population declines. In addition to the Indiana bat, five North American species are officially endangered: the lesser long-nosed bat, the Mexican long-nosed bat, the gray bat, the Ozark big-eared bat and the Virginia big-eared bat.

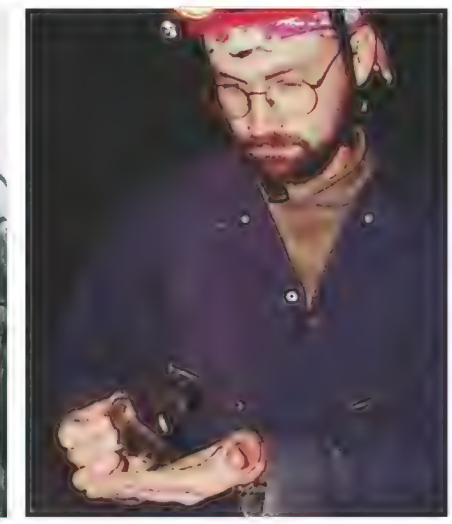
Indiana bats, once so abundant in the East and Midwest that a single cave might hold millions, slipped below one million total population in the 1960s and at last count, in 1999, numbered only around 350,000, according to the U.S. Fish and Wildlife Service. Some experts predict that if current population trends continue, the species might be extinct as soon as 2030. The primary known cause of the decline is one that most bat species in the United States are facing: loss of hibernacula, or sites in which they can hibernate undisturbed.

A hibernating bat, with its heartbeat and breathing and body temperature all decreased, is exceedingly vulnerable, and people have destroyed entire wintering colonies, sometimes deliberately, sometimes inadvertently. Just rousting a bat out of hibernation may eventually kill it; its small body has just enough fat in reserve to get through the winter, and awakening the animal consumes precious fuel. Large caves have been emptied of bats by vandals, explorers, spelunkers and tourists. With undisturbed caverns becoming scarce, North American bats have increasingly turned to abandoned mines as a last resort.

As it happens, the Magazine Mine is well suited to the Indiana bat, which Kath says has the narrowest temperature tolerance during hibernation of any Midwestern bat—about 39 to 46 degrees. If the temperature gets much warmer, he says, the bat's metabolism speeds up and it may burn through its stored fat and starve; if colder, it succumbs to the chill or wastes energy searching for a warmer spot.

Though one might think that coaxing bats to live in an old mine is no great feat, the effort has required close cooperation among parties that don't always get along. Generally, mining companies preferred to seal off spent mines for public safety. Then, a decade ago, Bat Conservation International, Inc., based in Austin, Texas, and the federal Bureau of Land Management started the Bats and Mines Project, to make some nonworking mines accessible to flying—but not bipedal—mammals.

In 1996, the mine held 100 Indiana bats; in 2003, there were more than 26,000.



Converting the Magazine Mine, left (Bat Conservation International's Sheryl Ducummon, the Forest Service's Ray Smith and UNIMIN's Siebert Crowley in 1996), cost $130,000. Joe Kath (with an Indiana bat) says the flying mammals are beginning to get respect.

UNIMIN first approached the bat conservation group for advice in 1995. Workers welded a steel grid over the mine's air-intake shaft, allowing bats to come and go. With state and federal money, volunteers erected a fence around the main entrance and installed 49 metal arches to stabilize the tunnel. The project, completed in 2001, cost nearly $130,000.

The mine's Indiana bat colony has grown dramatically. In 1996, there were just about 100 bats, according to the initial census; by 1999, the population had increased to 9,000; by 2001, to 15,000; and by 2003, to more than 26,000. In fact, their numbers have been rising faster than the species can breed, meaning the mine must be attracting bats from other areas. "One day, this single site might hold more Indiana bats than anywhere else," says Merlin Tuttle, president of Bat Conservation International. While the species is still declining in North America overall, populations are also flourishing in protected mines in New York, New Jersey, Ohio and Pennsylvania.

The Magazine Mine is one of more than 1,000 former U.S. mines that have been turned into bat sanctuaries since 1994, safeguarding millions of bats of at least 30 different species, Tuttle says. Near Iron Mountain, Michigan, the Millie Hill Mine, formerly worked by an iron-mining company, holds hundreds of thousands of little and big brown bats. And across the West, some 200 gated mine sites have helped keep the Western big-eared bat off the endangered list.

Meanwhile, bats seem to have gained a little respect. "In ten years," Kath says, "it's gone from people bashing bats in the attic to people asking me for advice on how to build boxes in their backyard" to house the animals, among nature's most efficient bug zappers.

In the Magazine Mine, it occurs to me that the project has exposed a myth as misguided as the notion that all bats are blind—that every endangered species will generate an ugly battle between conservationists and industry. Here, living, squeaking evidence that cooperation is possible covers the ceiling. What better agent to upend conventional wisdom than a flying mammal that sleeps upside down?

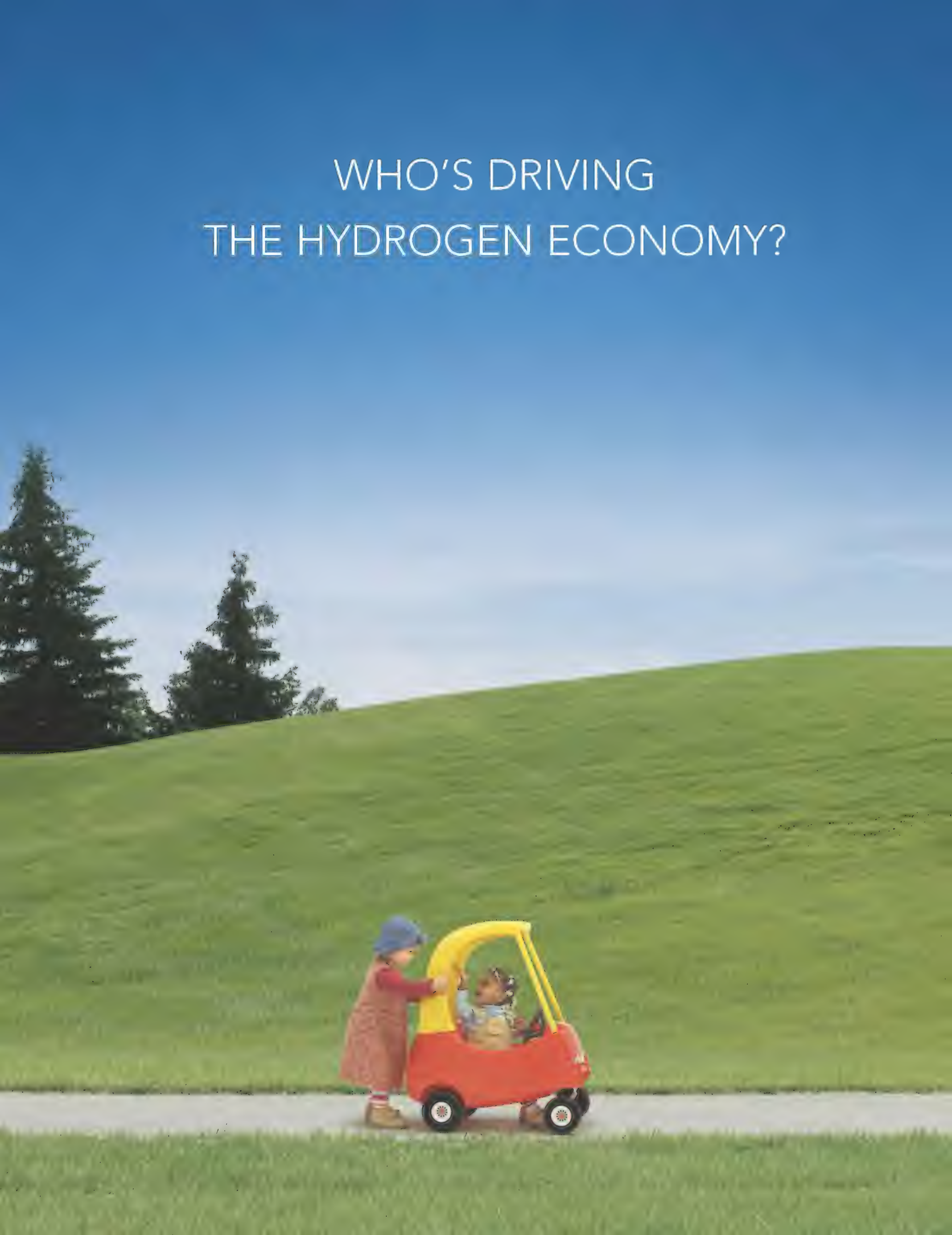
Biologist DOUGLAS H. CHADWICK *is the author, most recently, of 2003's* True Grizz.

DAN TAYLOR / BAT CONSERVATION INTERNATIONAL; RICK FOX / UNIMIN SPECIALTY MINERALS CORPORATION

JUST LOOKING

NIGHT VISION Earlier this year, passersby on a freeway in Bath, England, encountered a rare spectacle: a hillside "planted" with 1,301 unwired fluorescent tubes that became more visible as the sun set. Richard Box, a 34-year-old artist-in-residence at the University of Bristol's Physics Department, installed his *Field* under electric power lines. Energy from the lines lit up the tubes, whose radiance increased as visitors approached. "You affect the light by your proximity," explains Box, "because you are a much better conductor than a glass tube." Photograph by Lewis Whyld for South West News Service. —*HELEN STARKWEATHER*

WHO'S DRIVING
THE HYDROGEN ECONOMY?



A BRIEF INTRODUCTION TO THE NEXT GENERATION OF GM.

The hydrogen economy isn't a pipe dream. And it isn't the buzz du jour on the front page of the business section. The hydrogen economy is the endgame of a multi-faceted strategy GM set in motion years ago, with steps that are real, progressive, and well-underway.

Internal combustion engine. GM has always been, and will continue to be, one of the leaders in fuel economy and emissions technology. Five cylinders delivering the power of six. Six delivering the power of eight. Smarter systems available in millions of GM vehicles right now. In fact, when it comes to fuel efficiency, our trucks win more head-to-head comparisons than any other manufacturer.

Hybrids. Powered partly by engines, partly by batteries, hybrids deliver improved fuel economy with uncompromising performance. Last year we announced an aggressive plan to take some of our most popular models and offer hybrid versions of them. Cars, trucks, SUVs and buses you already know and trust, with an extra boost at the fuel pump.

Hydrogen. The destination is the hydrogen economy. A generation of cars and trucks powered by hydrogen, where the only emission is water vapor. GM introduced the first fuel cell-powered concept vehicle nearly forty years ago. And we've continued to push fuel cells forward ever since. Right now, a test fleet of GM fuel cell vehicles is negotiating traffic in downtown Tokyo and Washington, D.C. Right now, GM has over five hundred engineers on three different continents working on hydrogen solutions.

We're making sure children today are in cleaner cars tomorrow. And in the driver's seat of the hydrogen economy.

GM

gm.com

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OLDSMOBILE SATURN HUMMER SAAB

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Westward Ho!

The corps begins its epic journey

After more than a year of preparations, William Clark and some 44 members of the Corps of Discovery broke camp May 14, 1804, and rowed upriver toward St. Charles, 23 miles away, to rendezvous with Meriwether Lewis, who was in St. Louis arranging for a delegation of Osage Indians to travel to Washington to meet President Jefferson. Clark and his men arrived there on the 16th and, with Lewis among them, set off again on May 21. The following excerpts are from several different journals; the diarists' names are in brackets.

May 14, 1804 [Cpt. William Clark]

Set out from Camp River a Dubois at 4 oClock P.M. and proceded up the Missouris under Sail to the first Island in the Missouri and Camped on the upper point opposit a Creek on the South Side below a ledge of limestone rock Called Colewater, made 41/2 miles. . . . a Cloudy rainey day. . . men in high Spirits.

May 16 [Clark]

We arrived at St. Charles at 12 oClock a number Spectators french & Indians flocked to the bank to See the party. . . . I was invited to Dine with a Mr. Ducett this gentleman was once a merchant from Canadia, from misfortunes aded to the loss of a Cargo Sold to the late Judge Turner he has become Somewhat reduced, he has a Charming wife an eligent Situation on the hill Serounded by orchards & a excellent gardain.

May 21: "We left under a salute of three cheers from the inhabitants, which we returned with three more."

May 17 [Sgt. John Ordway]

A Sergeant and four men of the Party destined for the Missourri Expidition will convene at 11 oClock to day on the quarter Deck of the Boat, and form themselves into a Court martial to hear and determine (in behalf of the Capt.) the evidences aduced against William Warner & Hugh Hall for being absent last night without leave. . . . The Court one of oppinion that the Prisoners Warner & Hall are Both Guilty of being absent from camp without leave it being a breach of the Rules and articles of war and do Sentence them Each to receive twenty-five *lashes* on their naked back, but the Court recommend them from their former Good conduct, to the mercy of the commanding officer.

May 20 [Cpt. Meriwether Lewis]

The morning was fair, and the weather pleasent; at 10 oCk A.M. . . . I was joined by Capt. Stoddard . . . and many other respectable inhabitants of St. Louis, who had engaged to accompany me to the Vilage of St. Charles [and] we set forward to that village in order to join my friend companion and fellow labourer Capt. William Clark who had previously arrived at that place with the party destined for the discovery of the interior of the continent of North America. . . .

May 23 [Clark]

Set out early run on a log: under water and Detained one hour . . . [after going ashore] Capt Lewis' assended the hill which has peninsulis projecting in raged points to the river, and was near falling. . . . Saved himself by the assistance of his Knife. . . .

May 23 [Pvt. Joseph Whitehouse]

We . . . proceeded on very well, and passed some Plantations, which is called Boons settlement lying on the north side of the River. This settlement was made by Colonel Daniel Boone, the person who first discover'd Kentucky, & who was residing at this place, with a number of his family and friends.

May 25 [Clark]

. . . To a Small french Village called La Charatt of five families only, in the bend to the Starbord This is the Last Settlement of Whites. . . .

May 31 [Pvt. Patrick Gass]

We were obliged to remain at this encampment all day, on account of a strong wind from the west. An Indian man and a squaw came down the river with two canoes, loaded with fur and peltry, and remained with us all night. Some of our hunters went out and killed a deer.

GARY R. LACY GALLERY, WASHINGTON, MO

Important Correction of Information about Pravachol® (pravastatin sodium) tablets

Bristol-Myers Squibb Company, maker of Pravachol, ran ads for Pravachol that the FDA determined were misleading. The statement they determined misleading was "Pravachol is the only cholesterol lowering drug proven to help prevent first and second heart attack and stroke in people with high cholesterol or heart disease." This statement suggested that Pravachol has been proven to help prevent stroke in people without heart disease.

Please note, Pravachol has not been proven to help prevent stroke in people without heart disease. Pravachol is proven to help prevent stroke only in people with coronary heart disease (CHD).

Pravachol is no longer the only cholesterol lowering drug approved to help prevent first and second heart attack. In April 2003, another drug was approved to reduce the risk of heart attacks and stroke in patients with CHD, or without CHD but at high risk of coronary events because of diabetes, peripheral vessel disease, or history of stroke or other cerebrovascular disease.

Pravachol, with diet, when diet and exercise are not enough, is approved to:

- effectively lower cholesterol in people with high cholesterol
- help prevent heart attacks in people with high cholesterol or heart disease
- help prevent stroke in people with heart disease

If your doctor prescribed Pravachol, you should continue to take Pravachol in accordance with his or her directions. If you have any questions about Pravachol, ask your doctor or healthcare professional.

Important Considerations: Pravachol, a prescription drug, is not for everyone, including women who are pregnant or nursing or may become pregnant, or people with liver problems. And because serious side effects can result, tell your doctor about any unexplained muscle pain or weakness you experience while on Pravachol, and about any other medications you are taking. Your doctor may do blood tests to check for liver problems. Some mild side effects, such as slight rash or stomach upset, occur in 2-4% of patients.

Please see product information following this advertisement.

Bristol-Myers Squibb Company

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D3-K0149-N 01-04

PRAVACHOL® (pravastatin sodium) 40 mg tablets

PRAVACHOL®

Rx only

(pravastatin sodium) Tablets

Please read this summary carefully and then ask your doctor about PRAVACHOL® (pravastatin sodium) Tablets. There may be new information. This advertisement does not take the place of talking to your doctor about your medical condition or your treatment. Only your doctor has the training to weigh the risks and benefits of a prescription drug for you.

What are the uses of PRAVACHOL? (INDICATIONS)

PRAVACHOL is a prescription medicine that is added to diet, when diet and exercise are not enough. PRAVACHOL helps lower cholesterol in the blood. It lowers LDL "bad" cholesterol and raises HDL "good" cholesterol. In addition, in patients with high cholesterol who do not have heart disease, PRAVACHOL is proven to help prevent heart attack, reduce the risk of dying from a heart attack, and reduce the risk of undergoing heart bypass surgery or angioplasty (a procedure used to open a narrowing in the coronary artery without surgery). In patients with heart disease, PRAVACHOL is proven to help prevent heart attack and stroke, reduce the risk of dying from a heart attack, reduce the risk of undergoing heart bypass surgery and angioplasty, and slow the progression of hardening of the arteries.

Who should not take PRAVACHOL? (CONTRAINDICATIONS)

Some people should not take PRAVACHOL:

Patients with liver problems: PRAVACHOL should not be used by patients with active liver disease or who have repeated blood tests indicating possible liver problems. (See **What else should I know about PRAVACHOL? - WARNINGS.)**

Women who are or may become pregnant: Pregnant women should not take PRAVACHOL because it may harm the fetus. **Women of childbearing age should not take PRAVACHOL unless it is highly unlikely that they will become pregnant.** If a woman becomes pregnant while on PRAVACHOL, she should immediately stop taking the drug and talk to her doctor.

Women who are breast-feeding should not take PRAVACHOL.

Patients who are allergic to any of its ingredients: The active ingredient in PRAVACHOL is pravastatin sodium. The inactive ingredients are croscarmellose sodium, lactose, magnesium oxide, magnesium stearate, microcrystalline cellulose, and povidone. The 10 mg tablets also have Red Ferric Oxide; the 20 mg tablets and the 80 mg tablets also have Yellow Ferric Oxide; the 40 mg tablets also have Green Lake Blend (D&C Yellow No. 10-Aluminum Lake and FD&C Blue No. 1-Aluminum Lake).

What else should I know about PRAVACHOL?

WARNINGS

- **Muscle:** Tell your doctor right away if you experience any unexplained muscle pain, tenderness, or weakness at any time during treatment with PRAVACHOL so your doctor can decide if PRAVACHOL should be stopped. Some patients may have muscle ache or weakness while taking PRAVACHOL. Rarely, patients taking PRAVACHOL have experienced serious muscle breakdown resulting in kidney damage. The following can be signs of serious muscle breakdown: muscle pain, weakness or tenderness, fever, feeling more tired than usual, and passing brown or discolored urine. The risk of muscle damage is increased in patients taking certain other drugs (for example, erythromycin, cyclosporine, niacin or fibrates) along with another lipid-lowering drug that works similarly to PRAVACHOL. Using PRAVACHOL along with fibrates, like gemfibrozil, should be avoided unless your doctor determines that the benefits of combined use of PRAVACHOL and fibrates likely outweighs the increased risk of muscle problems.
- **Liver:** Rare cases of liver function abnormalities have been reported with lipid-lowering drugs similar to PRAVACHOL. Your doctor may do blood tests to check your liver before you start taking PRAVACHOL, and while you take it. If your liver enzyme levels increase, your doctor should order more frequent tests. If your liver enzyme levels remain unusually high, your doctor should discontinue your medication. Tell your doctor about any liver disease you may have had in the past and about how much alcohol you consume. Patients who consume large amounts of alcohol should use PRAVACHOL with caution.

PRECAUTIONS

- **Homozygous Familial Hypercholesterolemia:** PRAVACHOL has not been studied in this group of patients. Other lipid-lowering drugs similar to PRAVACHOL lower cholesterol less effectively in these patients.
- **Renal Insufficiency:** Patients with renal impairment who are taking PRAVACHOL should be monitored closely by their doctors.
- **Drug Interactions and Endocrine Function:** Because of possible serious drug interactions, it is important for patients to tell their doctors what other drugs they are taking, including those obtained without a prescription. They should also tell other doctors who are prescribing a new medicine for them that they are taking PRAVACHOL. (See **What else should I know about PRAVACHOL? - WARNINGS: Muscle.**) Caution should be exercised if a lipid-lowering drug is administered to patients also receiving other drugs that may diminish the levels or activity of steroid hormones.
- **Central Nervous System Toxicity; Cancer, Mutagenesis, Impairment of Fertility:** Like most prescription drugs, PRAVACHOL was required to be tested in animals before it was approved for human use. Often these tests were designed to give animals higher dosages of PRAVACHOL than is recommended for humans. In some tests, the animals had damage to their central nervous systems. In studies of rats and mice with high doses of PRAVACHOL, the likelihood of certain types of cancer increased. No evidence of mutations of or damage to genetic material was seen. In one study with rats, PRAVACHOL did not decrease fertility or general reproductive performance. However, in studies with lipid-lowering drugs similar to PRAVACHOL, there was decreased fertility in male animals.
- **Pregnancy: The safety of using PRAVACHOL during pregnancy has not been established.** If a woman becomes pregnant while taking PRAVACHOL (pravastatin sodium), she should immediately stop taking the drug and talk to her doctor at once. (See **Who should not take PRAVACHOL? - CONTRAINDICATIONS.**)
- **Nursing Mothers:** Drugs taken by nursing mothers may be present in their breast milk. Because of the potential for serious adverse reactions in nursing infants, a woman taking PRAVACHOL should not breast-feed.
- **Pediatric Use:** The safety and effectiveness of PRAVACHOL in children and adolescents from 8-18 years of age have been established in clinical trials. Children and adolescent females of childbearing potential should be counseled on appropriate contraceptive methods while on PRAVACHOL. PRAVACHOL has not been studied in children younger than 8 years of age.
- **Geriatric Use:** The safety and effectiveness of PRAVACHOL in patients aged 65 and older have been established in clinical trials. Side effects in the elderly were similar to the overall population. There have been no age-related differences in efficacy and safety reported among patients taking PRAVACHOL.

What are the possible side effects of PRAVACHOL? (SIDE EFFECTS)

PRAVACHOL is generally well tolerated. Side effects have usually been mild and short-lived. However, some have been serious. In 4-month long placebo-controlled trials, 1.7% of PRAVACHOL-treated patients and 1.2% of placebo-treated patients discontinued therapy because of side effects. The following list of side effects may not be complete. Be sure to ask your doctor about side effects before taking PRAVACHOL and to discuss any side effects that may occur while taking PRAVACHOL.

- **Short- and Long-Term Placebo-Controlled Clinical Trials:** Side effects that have been reported in more than 2% of PRAVACHOL-treated patients from short-term trials, and in at least 1% of PRAVACHOL-treated patients in long-term trials are: heart chest pain, rash, nausea, vomiting, diarrhea, abdominal pain, constipation, gas, upset stomach, heartburn, fatigue, chest pain, flu, muscle/joint pain or weakness, muscle cramp, localized pain, headache, dizziness, sleep disturbance, depression, anxiety/nervousness, urinary problems, common cold, runny nose, cough, shortness of breath, upper respiratory infection, and vision disturbances. In addition, the following side effects have been reported in less than 1% of PRAVACHOL-treated patients in long-term trials: certain skin problems such as itching, rash, hives, dryness, and hair loss, loss of sexual function or drive, decreased appetite, fever, flushing, allergies, swelling of the head and neck, muscle weakness, problems of the nervous system including abnormal sensations such as tingling, dizziness, sleeplessness, memory impairment, and shaking, nerve damage including loss of muscle tissue, progression of cataracts, and taste disturbance.
- **Postmarketing Experience:** In addition to the events reported above, as with other lipid-lowering drugs similar to PRAVACHOL, the following side effects have been reported rarely during post-marketing experience: muscle weakness, muscle breakdown, dysfunction of certain brain nerves (including alteration of taste, impairment of eye movement, facial paralysis), damage to nerves causing weakness and/or abnormal sensation, severe allergic reaction (anaphylaxis), lupus-like syndrome, severe pain and stiffness of muscles, muscle weakness with muscle loss, inflammation of the blood vessels, skin bruising, low iron, abnormal blood tests, arthritis, joint pain, weakness, sensitivity to light, chills, fatigue, severe skin disorders that vary from rash to serious burn-like shedding of skin all over the body including mucous membranes (such as the lining of the mouth), inflammation of the pancreas, inflammation of the liver, jaundice, fatty change in liver, severe liver damage and failure, liver cancer, a variety of skin changes (e.g., nodules, discoloration, dryness of mucous membranes, changes to hair/nails), breast enlargement, liver test abnormalities including elevated alkaline phosphatase and bilirubin, and thyroid function abnormalities.
- **Laboratory Test Abnormalities:** Increases in certain liver enzymes have been observed (see **WARNINGS, Liver**). Temporary increases in certain white blood cells have been reported. These increases were generally not associated with symptoms and usually returned to normal despite continued therapy. Low red blood cell, white blood cell and platelet counts have been reported with lipid-lowering drugs similar to PRAVACHOL.

How should I take PRAVACHOL? (DOSAGE, ADMINISTRATION AND OVERDOSAGE)

Patients should take PRAVACHOL exactly as their doctors prescribe it. The usual dose of PRAVACHOL is 1 tablet once a day. PRAVACHOL comes in different dosage strengths and the patient's doctor will prescribe the dose that is right for the patient. The doctor may adjust the dose. A patient taking PRAVACHOL should not change the dose without talking to their doctor. PRAVACHOL may be taken with or without food.

If a patient misses a dose of PRAVACHOL, the dose should be taken as soon as the patient remembers. **Patients must not take 2 doses in the same day.** If a patient takes too much PRAVACHOL, the patient should call their doctor or Poison Control Center right away.

The lowest dose of PRAVACHOL is recommended in patients with a history of significant kidney or liver problems and in patients taking immunosuppressive drugs such as cyclosporine.

NOTE: This summary provides important information about PRAVACHOL. If you would like more information, ask your doctor or pharmacist to let you read the information about PRAVACHOL that is written for health professionals and then discuss it with them.

Bristol-Myers Squibb Company
Princeton, NJ 08543 U.S.A.

D3-B0001CBS-12-03

Issued: December 2003

"Beverly": Better Than the Bugler

Jean Hay charmed World War II G.I.'s with her morning radio program of chat and swing

WHEN IRVING BERLIN wrote "Oh, how I hate to get up in the morning . . . ," he reflected what every soldier knows too well: reveille is the cruelest moment of the day. For thousands of men called up for military service in the months before and after the attack on Pearl Harbor, the perky little variation on four notes played by camp buglers at the dawn's early light was both a reminder of a softer life left behind and a harbinger of hardships to come. But this insistent call to duty had its antidote. Many of those who served will remember with special fondness the early morning intimacy of a particular voice on a radio show called "Reveille with Beverly."

From 1941 to 1944, starting at 5:30 a.m., for one hour, six days a week, a sweet-voiced young woman ("We're ready with the stuff that makes you swing and sway . . . ") played 78 rpm records by Glenn Miller, Tommy Dorsey, Duke Ellington, Freddie

A soldier told Beverly (below, in a 1941 advertisement) that she had a sense of humor "as sharp as jailhouse coffee."

IT'S A DATE
AT
REVEILLE
With
Beverly
...KFEL'S Buck Private
...she spins your favorite request tunes...and keeps you posted on news items of interest to Army men—all the dope on social, military and athletic events—lots of "personal" items, too! Attention is focused on army activity in the Rocky Mountain area. Mail your requests and comments to Beverly at KFEL, Denver.
KFEL
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B
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950 ON YOUR DIAL
KFEL DENVER
5000 WATTS
MUTUAL NETWORK
EVERY MORNING FROM 5:30 to 6:30

JEAN HAY COLLECTION

Slack and other big bands of the era. The day ahead might be filled with the harsh commands of crusty drill sergeants, but Beverly put a little delight in the dawn.

Today, 86-year-old Hay recalls spinning "platters that were busting with bounce."

In fact, Beverly was a young woman from Boulder, Colorado, named Jean Ruth, not long out of college, who had heard friends at Fort Logan near Denver talk about their dread of the morning wake-up and decided to do something about it. Armed with enthusiasm and a love of popular music, she went to the manager of Denver radio station KFEL and offered to go on the air when the troops were getting up. The show was an immediate hit, with Beverly responding to mail requests and passing along messages. "I got all I needed from the mail from the G.I.'s," says Ruth, now Jean Ruth Hay. "I tried to make it the girl next door, warm, and maybe semi-sexy," she says. But, she adds, "I thought about how the music would sound at reveille, not about how I sounded."

When a story about the show appeared in *Time* magazine, Ruth was hired by KNX in Los Angeles. The newly formed Armed Forces Radio Service picked up the show and began sending it to bases all over the world, and before long Ruth was waking up some 11 million G.I.'s stationed in 54 countries.

In 1943, Columbia Pictures produced a mini-musical called (what else?) *Reveille With Beverly*, starring Ann Miller and featuring the big bands most popular on the show. As a technical adviser to the movie, Ruth urged that musical numbers be performed in their entirety, not cut for pacing, as was the practice; for that reason Duke Ellington would later say that *Reveille* was a milestone in musicals. Ruth also got the producers to hire Frank Sinatra, at the time singing with the Tommy Dorsey band, though Columbia didn't want to use "an unknown." Sinatra's celluloid rendition of "Night and Day" launched his film career.

After the war, Ruth became a popular broadcaster in Santa Barbara and was cast as the Pillsbury Homemaker until she was replaced by the Pillsbury Doughboy. Now living in Northern California with her husband, John Hay, a retired attorney, Jean Ruth Hay still finds time, at 86, to volunteer with Direct Relief, which disperses medical supplies worldwide. In show business, they say, timing is everything, and Beverly's was a voice that was there when it mattered most.

—*OWEN EDWARDS*

Jean Hay will be a featured speaker at the May 27-30 "Tribute to a Generation: National World War II Reunion," organized by the Smithsonian's Center for Folklife and Cultural Heritage.

FROM THE ATTIC

GUNS AND VALOR As Americans in the early days of World War II were called upon to turn over tin cans and other scrap metal to be melted down for the war effort, U.S. officials were searching out hardware from World War I—German helmets, small arms, bayonets and other trophies—in town squares, VFW posts and courthouses to use again in battle. On September 5, 1942, the Smithsonian joined in that effort, turning over to military officials some 20 cannons and other materials from its historic artillery collection—in all, about 100 tons of steel. Admitting some surprise at the scope of the offer, which included a Krupp gun taken at Beijing during the 1900 Boxer Rebellion and twin torpedo tubes used on the U.S.S. *Montana* from 1914 to 1918, Maj. Gen. Milton A. Reckord (shaking hands with Smithsonian Secretary Charles G. Abbot) said, "Usually, when a treasure gets into a museum it is there to stay. . . . Here is the Nation's leading museum freely surrendering to the war effort cannon that were used in previous wars and now are destined to fight again." —*BETH PY-LIEBERMAN*

DOUGLAS PULVER; AP / WIDE WORLD PHOTOS

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V—as in Victory Mail

Letters to and from Allied troops were shrunk before shipping

IT WAS 1942 and Seaman First Class Joseph Spiegelberg, like so many others in uniform, was thousands of miles from home. His wife Ruth, baby Beth, and parents David and Fannie were back in Brooklyn, New York. But he managed to stay in close touch by V-mail. A sluggish precursor of today's e-mail, V-mail was a method of compacting wartime correspondence onto microfilm, thus expediting delivery time and reducing bulk and weight. They were little epistolary lifelines cast from one continent to another, from homeland to front line, serviceman to wife, father to child. The Spiegelberg V-mails, housed at the Smithsonian's National Postal Museum, are poignant mementos of a time when sending a few words to a loved one overseas was not only an emotional release but also a patriotic duty.

Yes, Joseph received the package of kumquats and anchovies. No, Ruth didn't vote in the mayoral election. Beth had a fever. Ruth had a restless night's sleep. Joseph's parents brought a pair of crocheted, red moccasins for Beth and a modest check for Ruth. And guess what? Little Beth has just learned to say, "Daddy."

V-mail was launched by the War and Navy departments and the Postal Service on June 15, 1942. Correspondents drafted messages on single preprinted sheets of thin paper that, when folded and sealed, also served as envelopes. Gathered at three central postal stations—in New York, Chicago and San Francisco—the letters were opened, sorted and copied onto microfilm. Flown overseas, the film was then processed into small, sometimes almost illegible, 4 x 5 photographs of the originals. Some 41 months later, when the last V-mail departed from New York on November 1, 1945, almost 1.25 billion had traveled to and from servicemen.

The Next Best Thing to a Leave
···is a LETTER

Home is heaven to men overseas. And a letter is a five-minute furlough at home. So however busy you are, find time to write that man in the service. When you write, remember these 3 rules: 1. Short frequent letters are better than occasional long ones. 2. Write cheerful, newsy letters about familiar places and faces. 3. Use V-Mail, because V-Mail gets there quicker, saves space for vital supplies that help speed Victory. Why not read this magazine later and write a V-Mail letter now?

HOW THE MARTIN MARS BOOSTS MORALE

Mighty morale-booster is the Martin Mars. Each trip she carries thousands of letters . . . and if loaded only with V-Mail, she could carry the unbelievable total of 260,000,000 letters! Looking ahead, this great capacity of Mars-type planes will mean greater payloads, lowered costs, for overocean airlines. Already designed, commercial cargo and passenger versions of the Mars await only Victory to become reality. So tomorrow, for speed, safety, comfort and economy, plan to take trips or ship goods via Martin Mars!

Martin AIRCRAFT

V-MAIL VIA MARS! Making as many as 14 trips each month between California and Honolulu, the huge Martin Mars speeds mail, supplies and priority passengers to the Pacific. A number of 82-ton seaplanes will soon join her to serve our lengthening battle lines.

Advertisements urged V-mail writers to "Make it Short" and "Keep it Cheerful."

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In December 1943, one soldier stationed "somewhere in Europe" wrote to his wife and daughter, "I can't get all the love I feel for you both in this V-mail letter, it is too small." Indeed, the urge to put love into V-mails resulted in what newspapers dubbed the "Scarlet Scourge": lipstick kisses on the V-mails that clogged postal machines and were rendered as gray blotches on the facsimiles. Postal workers grew accustomed also to rose petals, locks of hair and photographs fluttering out of unsealed V-mails—all violations of an explicit ban against enclosures.

Advertising campaigns exhorted family and friends at home to send a "five-minute furlough" to their beloved servicemen. "Yes, V-Mail! Newsy letters packed with brief, bright, day-by-day details of life at home. That's what a man overseas wants," urged one advertisement.

"In theory, this is what grounded the guys," says Nancy Pope, historian at the Postal Museum. "The Spiegelberg correspondence is the prototype of what V-Mail was supposed to be: mention the family, talk about daily stuff, make the guys feel they are not far from home, and write frequently. V-Mail was one way to do your bit—like your victory garden—to help the war effort." —*VICTORIA DAWSON*

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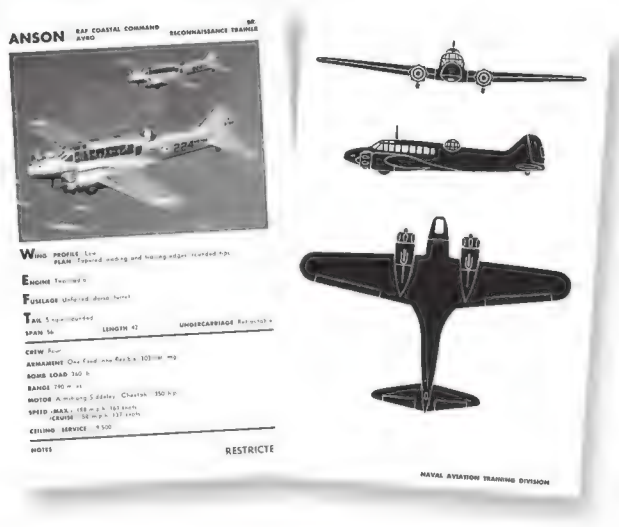

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ROCKING THE CRADLE

In Iran, an archaeologist is racing to uncover a literate Bronze Age society he believes predates ancient Mesopotamia. Critics say he may be overreaching, but they concede his dig will likely change our view of the dawn of civilization

BY ANDREW LAWLER *PHOTOGRAPHS BY MOHAMMAD ESLAMI-RAD*

SWATHED MODESTLY IN A BLACK HEAD SCARF and wearing black sunglasses and a black visor, Akram Gholami is standing in the bottom of a trench, carefully brushing at a tiny section of an exposed earth wall. It is one of the last days of a six-week archaeological excavation this past January and February in a rugged part of southeastern Iran, and most of the other workers are leaving the high dusty mound on foot or straddling old motorcycles. But the Iranian archaeologist is too intent on this bit of dirt to call it quits just yet.

Her intensity attracts the attention of Holly Pittman, an American archaeologist, who wanders over from a nearby trench. To the untrained eye, the spot in Gholami's wall is just a slightly darker bit of soil in a precise rectangular hole. The two archaeologists, though, think it might be a precious clue to a civilization that vanished more than 4,000 years ago and is only now coming to light.

Using brushes and toothpicks, Pittman begins coaxing the discolored chunk out of the wall. An hour later, she adjusts her white-and-black head scarf and triumphantly shows off the results of their labor: a chunk of dried mud about the size of a bar of soap. To Yousef Madjidzadeh, the expatriate Iranian archaeologist who is leading the expedition, it's a triumphant moment, providing further evidence that he has found the remains of the mysterious Bronze Age culture of Aratta—a lost city celebrated in a four-millennia-old epic for its colorful architecture and excellent craftsmanship. "This is magnificent!" Madjidzadeh says, so overcome he takes a seat on a ledge in the trench. "I'm going to cry."

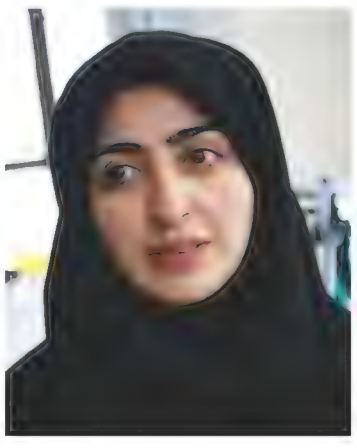
The earthen clod contains an impression probably made by a scribe, priest or merchant rolling a cylindrical seal on damp clay. It is one of a dozen such impressions discovered here in the past month. But what has brought tears to Mad-

It took some three million to four million mud bricks to form a mound—once probably a temple or fort—like the one above. Below: Plastic protects remnants of another mound from winter rains. More than 200 workers took part in this year's dig.

Branded a counterrevolutionary when Islamic fundamentalists took over Iran in 1979, Madjidzadeh (above) eventually moved to France. His work near modern-day Jiroft is fostering a new generation of Iranian archaeologists, including Akram Gholami (below).

jidzadeh's eyes are the curious markings on the imprint—the first clear sign that this civilization had achieved literacy.

The last-minute discovery and others made during the dig have convinced Madjidzadeh that this desolate valley, watered by the Halil River, was once home to a thriving—and literate—community. He calls it nothing less than "the earliest Oriental civilization." It's a dramatic assertion, but if he's right, it would mean the Halil River site could be older than Mesopotamia, a thousand miles to the west in what is today Iraq and long acknowledged as one of the earliest civilizations. Confirmation would enhance the understanding of the critical period when people began to live a literate urban life. It would also bestow prominence to this forgotten corner of Iran.



Others are more cautious. The age of the site has not been scientifically established, and there isn't enough research on the area to conclusively cross-reference the finds with other sites. Even Pittman gently suggests that there is not enough evidence yet to back up Madjidzadeh's claims. "He's a typical archaeologist," she says with a smile and a shrug. "His site is the center of the universe." Still, she adds, it is "a very exciting site. The fact that this was a third millennium civilization adds tremendously to our knowledge of the time."

IT TOOK an unlikely combination of events—a flood in this region, combined with a political thaw in distant Tehran, the Iranian capital—to bring Madjidzadeh here in the first place. In 2001, local villagers began plundering ancient graves exposed by a flash flood. Iranian police confiscated hundreds of finely worked stone vessels carved with images of animals and architecture and decorated with semiprecious stones. Because the vessels were not scientifically recovered, their age and origin are open to debate. But Madjidzadeh strongly believes most were made in this valley more than 4,000 years ago. If so, they can provide clues about how the Halil River people lived, died, worked and prayed.

Even more intriguing, the artifacts resemble vessels that have been found from today's Syria all the way to the Indus River Valley and definitively date to the middle of the third millennium B.C. The identity and center of the culture that made these stone vessels have never before been pinpoint-

ANDREW LAWLER is Science *magazine's Boston correspondent. In June 2003, he wrote for* SMITHSONIAN *about the archaeology of Iraq. MOHAMMAD ESLAMI-RAD is a photojournalist based in Tehran.*

COURTESY OF YOUSSEF MADJIDZADEH (2)

Mesopotamia, in present-day Iraq, and the Indus River Valley in Pakistan to the east—literate cultures linked by a trade network—defined Western Asia's earliest history. Now archaeologists are focusing on a mysterious culture in Iran's Halil River Valley at Jiroft.

ed, but in the 1970s Harvard archaeologist Carl Lamberg-Karlovsky discovered a workshop for making the distinctive stone vessels while digging at a site called Tepe Yahya, just over the mountains from here.

The third millennium B.C. was a critical and even romantic time in human history, when writing flourished for the first time. One of the oldest recorded stories describes a struggle between the king of Uruk—a thriving port in southern Mesopotamia where writing is believed to have begun around 3200 B.C.—and the lord of a land called Aratta. "Aratta's battlements are of green lapis lazuli, its walls and its towering brickwork are bright red, their brick clay is made of tinstone dug out in the mountains where the cypress grows," the epic reads. Uruk's king Enmerkar asks the lord of Aratta to submit to him. The lord refuses, despite the drought ravaging his land, and instead wrests much-needed grain from Uruk, staving off the Mesopotamians until the rains return. Enmerkar's defeat is interpreted as a parable of the arrogance of power.

Some scholars argue that Aratta was a powerful, artistically advanced kingdom located in Armenia or western Iran. Others say it is merely the stuff of myth. Madjidzadeh, a vigorous man in his 60s with a neatly trimmed beard, has long believed that a great culture flowered in Aratta—and that the ancient kingdom was located here in southeastern Iran. Lamberg-Karlovsky's discovery at Tepe Yahya inspired Madjidzadeh, then a doctoral student at the University of Chicago, to pursue Aratta's origins when he returned to Iran to teach at Tehran University in 1970.

His plans were dashed by the toppling of the Shah of Iran during 1979's Islamic Revolution. Foreign archaeologists were no longer welcome in the country, and Madjidzadeh—married to a French woman and Western-educated—was labeled a counterrevolutionary and stripped of his professorship. It would take nearly 25 years for him to resume the search for Aratta.

I MEET UP WITH PITTMAN, a professor and museum curator at the University of Pennsylvania, hundreds of miles from the dig, in the sprawling metropolis of Tehran. From there, we hop on a packed commercial jet, flying over pale deserts and brown mountains, to Kerman, where a driver from Madjidzadeh's team meets us for the three-hour journey south to Jiroft. With a population of 300,000, Jiroft is the biggest city in the Halil River Valley, known for its succulent fruits, fresh vegetables and independent-minded people.

The sun is setting across row after row of snowcapped peaks as Pittman and I ride down into the Halil River Valley. High mountain ramparts enclose the valley on three sides, and the snaking Halil River winds across the bottom before

MIKE REAGAN

Ancient gravesites (above, patrolled by an Iranian soldier) were looted following a 2001 flood. Even when stolen objects are recovered, their scientific significance may be lost. An archaeological dig at one mound (right) revealed a fortified citadel.

vanishing in a distant desert marsh. The region's remoteness has kept it out of history's limelight, save for a possible visit by Alexander the Great on his disastrous return from India in 325 B.C. and a Mogul invasion 1,500 years later. The unforgiving environment, more than marauding troops, has shaped the place. Summer temperatures regularly soar above 120 degrees—ideal weather for the date harvest, since it is too hot even for flies. Droughts can last for years. Earthquakes and floods have littered the valley with the ruins of settlements stretching from Neolithic times to the 19th century. Yet as we drive out of the mountains, there are patches of astonishing dark green vegetation. Date palm groves and citrus orchards mingle with long plastic greenhouses.

Madjidzadeh's compound, or dig house, is nestled in a lovely grove of orange trees. But this is no idyll. Two dozen crew members are crowded into two concrete buildings, sharing rooms and computers and eating at a long communal table. At precisely 6:30 every morning, a rickety bus takes the sleepy researchers south along the river, through palm-shaded villages with mud-brick houses. Women in black chadors can be seen carrying flatbread, and donkeys with children on their backs clip-clop down alleys. The bus stops in one village and unloads a dozen people near a high mound before moving a mile down the road to a second massive mound.

Somewhere in these two man-made hills, Madjidzadeh believes, are the keys to the mysterious civilization that built Aratta. He has fielded a large crew to work in January and February, the coolest time of the year. In six weeks, 16 archaeologists and more than 200 workers will dig 18 trenches and open an acre and a half of earth. Most of the workers are local, and when the bus arrives many are already waiting, shovels in hand and wearing checkered head scarves around their necks to ward off the morning chill.

Madjidzadeh points to the dusty remains of unusual scalloped walls around the edge of the second mound. Elsewhere, workers have revealed drainage channels and stone foundations. Madjidzadeh says this site may have been the protective citadel and administrative center of Aratta. The elaborate walls and multistoried buildings are reminiscent of details etched on stone vessels recovered 900 miles away. And this was no isolated fortress. In a trench close to the hill, workers uncovered the remains of a 14-room house; the citadel appears to have been ringed by residences.

Madjidzadeh's work at the other hill revealed what was once a massive mud-brick platform with at least one and possibly two smaller platforms on top. The structure's exact age is uncertain, but based on potsherds found at the site, it may have been built around the middle or end of the third millennium B.C. The structure resembles a Sumerian ziggurat. In distant Mesopotamia, such structures usually stood at the

center of a temple complex. Even by Mesopotamian standards, this mound is impressive; Madjidzadeh says the complex required some three million to four million mud bricks. Today, the mound remains sufficiently formidable to provide refuge for local villagers during floods.

In 2001, after the raging Halil River uncovered an ancient cemetery, an orgy of looting ensued, with hundreds, even thousands, of locals raiding graveyards south of Jiroft. "We guess that 100,000 objects were looted," Madjidzadeh says one evening at the dig-house dinner table. "It's a sad story. Looters made 10,000 holes over one and a half years." Based on information he's collected from villagers, each grave contained at least one stone vessel; the largest grave held 30.

All that's left of one cemetery are hundreds of ugly round holes, some as deep as 16 feet, pockmarking the plain alongside the shallow river. Nothing seems to have survived the raids but broken potsherds closely resembling those that Madjidzadeh is finding at the mounds. Two policemen appear suddenly when I visit a looted cemetery with two team members one afternoon. Both have their shirttails out and neither is old enough to grow a real mustache, though one has a rifle. But they are guarding only empty holes.

Later that day, a young man stops by Gholami's trench to chat with the workers. He says his name is Ali. His clothes are a notch nicer than his compatriots', and his motorcycle, waiting beside the road, is shiny and new. Why isn't he part of the digging team? "Do you prefer traveling in a minibus or a Mercedes?" Ali asks slyly. He says he digs too—not in the midday heat for archaeologists but at night, for his own gain. He's heard that others found a fish made of lapis lazuli just five nights before. "There are always guys showing up to buy things we dig up," Ali says. "It's normal." Local and national authorities were slow to halt the looting when it began, and the protection in place now is hardly effective. "Police have come, but they aren't doing anything serious," Ali says.

A number of villagers have reportedly been arrested for looting, but only one official: Hesam Arefi, the local representative for the Iranian Cultural Heritage Organization, which is responsible for overseeing the country's historic sites. Arefi was jailed for 18 days before being freed pending a trial later this year. "I was told I was a looter, and they said they found opium in my car," he says during a visit to the dig house. He denies the charges of looting and drug possession, insisting he is a political scapegoat. "People here like to have money, and they know there was an ancient city here—but they don't understand anything about ancient culture or archaeology."

And the looting continues. One day, a chartered helicopter doing aerial photography for the archaeologists spots illegal diggers in broad daylight. They flee, but the pilot trails them right to their homes. "The police chief was onboard," Madjidzadeh laughs. "And he says he will arrest them tomorrow." Such arrests, however, do little to stop the flow of artifacts from these cemeteries to dealers abroad.

To some locals, Madjidzadeh is simply one more treasure hunter muscling in on a good thing. To change that perception, the archaeologist gives lectures and slide shows in a different village each week to educate people about their heritage and its importance. It's a tough sell. "This is your history, your grandparents' legacy," he tells one group gathered a few miles from Jiroft. His speech, in a mud-brick hall, is met with polite attention and indifference. The hundred or so men in the audience—no women are present, save for several of the archaeologists—get up when he finishes and shuffle away without asking any questions.

Madjidzadeh rarely acknowledges defeat. For years after Tehran University dismissed him, he fought the school in court before going into self-imposed exile in France with his wife and their two children. In 1997, the election of the reform-minded president Mohammad Khatami loosened the conservatives' hold on the Iranian government. When the looting around Jiroft reached epidemic proportions, Iranian officials asked Madjidzadeh — now a French citizen — to return and conduct scientific excavations in the region. "There was a lot of danger," he says of his initial visit in 2001. At one point, soldiers shot and killed a teacher who'd been digging illegally. He worried looters would shoot archaeologists.

The first thing he did was examine hundreds of looted objects, mainly funerary vessels, that police had confiscated. "I drew them, photographed them, slept with them," he says. When he was finally ready to dig in early 2003, he made a calculated decision to avoid the cemeteries and focus on the two mounds. "People thought we were crazy. They asked, 'Why dig there? There's no treasure there, just potsherds.'"

But by digging at the mounds, he gained the trust of area villagers, showing them that archaeology was about understanding the past, not treasure hunting. And by giving villagers steady work, he encourages them to protect the site.

While educating area villagers, Madjidzadeh is also trying to train young Iranian ar-

Amid citrus groves in the Halil River Valley, this mound of mud-brick ruins, perhaps 4,500 years old, provides refuge during floods.

COURTESY OF YOUSSEF MADJIDZADEH

Shrouded for modesty (and protection from the blazing sun), Holly Pittman (left) examines a 14-room house uncovered near the citadel mound, perhaps part of a large settlement. Future digs should reveal more about the daily life of the valley's early people.

chaeologists. Because of the 1979 revolution, which closed the door to the outside world, an eight-year-long war with Iraq and a struggling economy, most of them are poorly paid and have scant knowledge of modern techniques. Madjidzadeh drives the team hard. Every night there is a lengthy seminar, and everyone is expected to put in long hours drawing, cataloging and analyzing their finds. A believer in women's rights, Madjidzadeh also encourages the participation of female archaeologists, such as Gholami.

For Gholami, 36, and the dig's other women, 56-year-old Penn archaeologist Pittman is a model. Gholami and Pittman spend what little free time they have chatting over glasses of tea. Pittman is among the very first American archaeologists to dig in Iran in nearly a quarter-century. At the moment, she's in the workroom, leaning her spare frame over a rickety drafting table while wearing a stamp-collecting visor to examine a clod of dirt. The room is a jumble of desks, chairs, potsherds and the occasional stunning artifact. A bronze dagger, uncovered by one of two University of Pennsylvania graduate students Pittman brought along, rests in a pot of sand near her feet. Outside, a muezzin is calling evening prayers while occasional cars swish by, leaving a faint smell of exhaust in the room. "I spend all my time going through mud balls. Ninety-nine percent of the time, they're just mud balls," she says. "Anyone who says time is money would think I'm crazy."

Pittman dropped out of Bryn Mawr in 1969 to travel through Europe. In Florence, Pittman found art; in Crete, hanging out with a team of French researchers digging at a Minoan palace, she found archaeology. "I desperately wanted a life where I could spend half of my time outside the country," she recalls. She went back to Columbia University to get her doctorate, and by the mid-1970s she was digging at a site in western Iran.

When the revolution forced her out, Pittman worked in Turkey, Syria and Iraq before Madjidzadeh invited her back to Iran this year. "Jiroft is perfect for me," she says. "I know the material and have experience in the areas of Mesopotamia and Anatolia as well as the Iranian plateau." In a cardboard box under her bed are fragments of a dozen seal impressions. After many painstaking hours at the table, she has almost completely reconstructed two. The next step is drawing them, at a scale of two or three to one. This work is critical to teasing out the details of Jiroft's trade and bureaucracy, preserved in damp clay for thousands of years.

Like signet rings from later times, such seals often marked an individual of rank. Typically made by an intricately carved cylinder worn around the neck and rolled across wet clay to mark a document or protect a box or storage jar, a seal might show scenes of gods and humans and animals. More than architecture or pottery, the fine details on cylinder seals provide a look

Confiscated stone vessels on display in a Jiroft museum display intricate designs in a style unique to the Halil River people. Iranian archaeologist Yousef Madjidzadeh believes these artifacts may be from the earliest civilization in all of Western Asia.

into the lives of the ancient world's rich and famous. "You have to know what to look for," Pittman says, brushing away a bit of dirt from a seal fragment. "I can look at this little piece and know if it is an architectural detail," perhaps a throne—a sign of royal splendor. "In the absence of writing, seal impressions are articulate—you can reconstruct a tale from these things."

In its heyday, Madjidzadeh says,this society may have closely resembled larger civilizations along the Indus River and in Mesopotamia. The archaeological evidence suggests that the Halil River settlers built monumental structures as well as modest homes out of mud bricks, and developed complex irrigation systems to support fields of grain. Though the Halil River is smaller than the great Indus, Tigris and Euphrates rivers, it watered a prosperous land, with its own mythology and unique architecture.

Madjidzadeh further believes the valley was a bustling center with well-developed art forms as early as 2700 B.C. with a history possibly going back four or five centuries earlier. He thinks it may have influenced nascent cultures in places like Uruk, based on myths and art from Mesopotamia that he believes echo the Halil River people.

Many scholars find Madjidzadeh's claims fanciful. "I don't want to diminish this discovery," says Oscar Muscarella, an archaeologist at the Metropolitan Museum of Art in New York. "It could be a major find, but this is not world-shaking." He says Harvard University archaeologist Carl Lamberg-Karlovsky's dig three decades ago at Tepe Yahya, 60 miles from Jiroft, already demonstrated that dark stone vessels came from this region. Oxford University cuneiformist Jeremy Black says identifying Jiroft as ancient Aratta will have to wait until its seal impressions and other markings are better understood.

Just dating the site is a formidable challenge. No radiocarbon tests have yet been carried out, and the other common method of determining age—cross-referencing pottery—is difficult in this largely unexplored region. Lamberg-Karlovsky himself says he would be surprised if the heyday of the Jiroft site predates 2500 B.C., and says he is "skeptical about [Madjidzadeh's] interpretations." Still, he agrees that the finds are "terribly important."

Even if Madjidzadeh's claims turn out to be exaggerated, he feels he is helping to free Iran from decades of isolation and fostering a new generation of archaeologists eager to uncover the region's past. When I reach him in Tehran a few weeks after the dig season is over, he is about to head back to Jiroft, whose city leaders are naming a square after him. Few archaeologists can boast such an honor, and giving it to a man once considered a counterrevolutionary makes it all the more surprising. The irony is not lost on Madjidzadeh. But given that his efforts could revolutionize the way we understand the ancient world, it seems a fitting tribute.

Painting by Steven Yazzie

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MEDICINE FROM THE SEA

From slime to sponges, scientists are plumbing the ocean's depths for new medications to treat cancer, pain and other ailments

BY KEVIN KRAJICK

PHOTOGRAPHS BY JEFFREY L. ROTMAN

FRED RAINEY was standing aboard the 100-foot-long *Spree* about seven miles off the marshy Louisiana coast, rocking on four-foot swells. All around, oil-rig platforms rose like skyscrapers from the heaving waters of the Gulf of Mexico's "oil patch," a 64,000-square-mile stretch of shallow ocean where 4,000 steel platforms pump enough petroleum to account for one-third of the nation's production. But Rainey was not prospecting for oil. A microbiologist at Louisiana State University, he was on the trail of an unlikely quarry: slime. In particular, he sought algae, sponges, sea urchins, soft corals and other squishy, mostly immobile organisms that have attached to the oil platforms' undersides in tangled mats up to a foot and a half thick.

Scientists believe that from such lowly marine creatures a number of medications may one day be derived. Compounds from marine sources are now being tested as treatments for chronic pain, asthma and various malignancies, including breast cancer. (A new generation of industrial chemicals as well—particularly, powerful adhesives—are on the

Scientists have extracted some 20,000 new biochemical substances from marine life over the past 30 years (inset, extracts of invertebrates await testing). But the hunt for drugs from the sea has only recently gone into high gear (right, divers collect organisms from a Gulf of Mexico oil rig).

"BECAUSE WE HUMANS LIVE ON LAND, THAT'S WHERE WE'VE ALWAYS LOOKED. BUT IF YOU ASKED 'WHERE SHOULD WE EXPLORE?' THE ANSWER WOULD ALWAYS BE THE SEA. NOW WE'RE THERE."

horizon.) Slime, it turns out, is absolutely brilliant at producing useful biochemicals.

Botanists and chemists have long prospected in tropical forests and other terrestrial ecosystems for unusual substances to meet human needs. But the world's oceans, which may contain as many as two million as yet undiscovered species, have remained largely untapped. Denizens of exotic, difficult-to-reach locations, such as deep-sea hot vents and seabed sediments, have hardly been documented. However, as advances in diving technology open new underwater realms to exploration, and developments in molecular biology and genetics allow labs to isolate molecules at a pace unimagined even a decade ago, the sea's potential as a biochemical resource is becoming apparent. Over the past 30 years, scientists have extracted at least 20,000 new biochemical substances from marine creatures. Dozens have reached clinical trials; a handful may soon be reviewed by the FDA for possible approval. "Because we humans live on land, that's where we've always looked," says organic chemist William Fenical, director of the Center for Marine Biotechnology and Biomedicine at the Scripps Institution of Oceanography in La Jolla, California. "But if you were to ask from scratch 'Where should we explore?' the answer would always be the sea. Now we're there."

Rainey, an easygoing native of Belfast, Northern Ireland, has collected microbes on high-Arctic islands and extremely dry deserts, including the Atacama in northern Chile. An unabashed nondiver, he claims he is unable to identify most marine specimens that aren't microbes—except perhaps starfish. "If you can see it with the naked eye, I probably can't help you," he quips. He made his first foray into marine bioprospecting in 2001, when the Department of the Interior asked Louisiana State University to survey lifeforms on oil and natural-gas platforms in the Gulf of Mexico. Marine biologists (and fishermen) have long been aware that offshore oil platforms function as artificial islands, creating new frontiers especially for sessile, or stationary, organisms such as sponges and coral; these organisms typically reproduce by releasing eggs and sperm that, when fertilized, become larvae. The larvae, in turn, may drift hundreds of miles before attaching to something solid.

Recently, a research team led by Rainey that included specialists in mollusks, algae and foraminifera (tiny one-celled shell-builders) conducted a three-day collecting expedition aboard the *Spree,* a chartered vessel. They embarked from Port Fourchon, Louisiana, a hamlet surrounded by saltwater bayous that are punctuated by giant oil-industry installations and the occasional Cajun fishing shack. The plan was to collect samples at five oil-rig platforms. The researchers and several divers pulled up to the dock with piles of gear and a six-foot-high freezer for storing specimens. They winched it onto the *Spree*'s upper deck and lashed it down with industrial-strength straps. The skipper, who insisted on being addressed as Captain Frank, was a large, gruff man with flaming red hair; his feet were bare, his toenails painted purple. He resembled a Viking marauder who had changed into shorts and T-shirt.

We cast off and met in the cabin to talk strategy. At each rig, the divers would chisel off a few pounds of whatever was growing on the platform legs at depths of 60 feet and 30 feet and at the sea-air interface. They would also use large sterile syringes to collect seawater (and thus the microbes inhabiting it). The waters around oil platforms are dangerous environments. Tidal surges and currents can bash a diver's head against a steel platform. The platform's legs and crossbraces harbor remnants of commercial fishing nets, not to mention lines fitted with fishhooks. Some platforms are equipped with large intake pipes that draw vast quantities of water; a diver who strays too close could be sucked in and drowned.

Within an hour we were in open water, though on all sides a city of steel oil platforms stretched to the horizon. At some points, I could count 50 at a time. The smallest consisted of just a few girders and pipes, rising 20 or 30 feet out of the water. The largest—gargantuan contraptions fitted with stairways, piping systems, winches, sheds, tanks and satellite dishes—towered 100 feet or higher. Helicopters buzzed from one to another, ferrying crews. Fishing boats bobbed everywhere: the platforms are piscine magnets. Some fish come to hide from predators, others to feed off organisms that have made the platforms home.

The first platform we visited, 42-C, was a rusty yellow monster 16 miles offshore in about 100 feet of murky green water. It sat on three massive legs, its nine well-stems, thick as utility poles, plunging through the center of the platform. Two-foot swells washed up and down its waterline, revealing the topmost layer of what the scientists were seeking: a wrinkled crust of barnacles six inches thick. A crewman tied the *Spree* to the structure with a heavy rope. A diver, Sam Salvo, plunged overboard and fastened a bright yellow safety line to one leg about 20 feet down. Rainey had high hopes. "There are so many microbes out here," he said from the aft deck. "Half of what they bring back will be new to science."

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P. 50 INSET: KATHERINE LAMBERT

Oil platforms (left, the *Spree* tied to a Gulf of Mexico rig) serve as artificial reefs, attracting organisms with intriguing properties. Right: Fred Rainey (with marine life collected at sea, including corals, opposite) says such invertebrates may yield antitumor compounds.

PEOPLE HAVE LONG exploited potent chemicals made by marine creatures. In imperial Rome, historians speculate, Nero's mother, Agrippina the Younger, paved the way for her son's reign by lacing hapless relatives' food with a poison extracted from a shell-less mollusk known as the sea hare. On the Hawaiian island of Maui, native warriors dipped spears in a lethal tidal-pool coral; enemies succumbed if they were so much as nicked.

Scientists have pursued such historical clues with some success. They have isolated a series of powerful toxins from *Dolabella auricularia*—the sea hare that was most likely the source of the poison that dispatched Nero's rivals. Today, researchers, including a group at Arizona State University, are investigating the compounds, called dolastatins, for their potential anticancer properties. Chemists have also discovered a perhaps even more toxic compound, palytoxin, from the soft coral *Palythoa toxica*, likely the organism used to deadly effect by Hawaiian warriors. Researchers at Harvard, Northwestern and Rockefeller universities are trying to determine this compound's potential.

The work done over the years in medicinal botany has been a major spur for marine bioprospecting. More than 100 important drugs originate either as direct extracts or synthetic redesigns of plant molecules, including aspirin (from willow bark), digitalis (from the flowering herb foxglove), morphine (from opium poppies) and the antimalarial drug quinine (from the bark of the cinchona tree).

Researchers largely overlooked the oceans as a source of pharmaceuticals until the advent of scuba technology, first tested in 1943. Among the pioneers of marine bioprospecting was Paul Scheuer, an organic chemist and a refugee from Nazi Germany who ended up at the University of Hawaii at Manoa in 1950. He began to collect, identify and study an astonishing array of organisms—in particular, soft, sessile creatures. What intrigued Scheuer and others was that although such creatures possessed no obvious defense mechanism against predators—no teeth, claws, flippers to effect escape, or even a tough skin—they thrived. Scheuer and others assumed that the organisms had potent chemical defenses that might prove useful to people, so they began searching for the compounds using tried-and-true methods of biochemistry: grinding up specimens, dissolving the materials in various solvents, then testing the resulting extracts for a range of properties, including an ability to kill bacteria, to react with nerve cells or to attack malignant cells.

By the 1970s, the U.S. National Cancer Institute (NCI) and other research centers had begun to fund expeditions around the globe to collect marine samples. So far, the NCI has screened tens of thousands of marine extracts, and the institute continues to receive roughly 1,000 organisms from the field each year. David Newman, a chemist with the NCI's natural products program, says the massive canvassing is necessary because only one out of every several thousand substances shows any promise. "You might expect to make a better return by playing Powerball," says Newman. "But with drugs, when you hit it, you hit it big."

The arduous process of identifying and testing marine compounds is about to greatly accelerate, some scientists say.

"With drugs, when you hit it, you hit it big," says David Newman (left) of the National Cancer Institute, which receives 1,000 marine samples yearly. Oregon State University's Bill Gerwick (right) tests a possible painkiller from blue-green algae found near Curaçao.

Automated chemical probes will seek out interesting stretches of genetic material in a batch of seawater or ground-up sponge; then, the thinking goes, gene-copying techniques will enable researchers to produce an abundance of whatever compound the gene is responsible for. "Now we have more ways to find the gene clusters that produce these substances, and clone them so they can produce more," says Bill Gerwick, an Oregon State University marine biochemist who studies blue-green algae from the Caribbean and the South Pacific. Recently, molecular biologist Craig Venter, president of the Institute for Biological Energy Alternatives, began sequencing the DNA of every microbe in the Sargasso Sea, a region of the Atlantic Ocean.

Most "discoveries" don't pan out, either because test-tube results don't translate to real-world problems or beneficial compounds also may produce harmful side effects. As a result, perhaps only one or two out of every hundred compounds that reach the preclinical testing stage yields a potential pharmaceutical—after anywhere from 5 to 30 years. "Both the beauty and the downfall of these compounds is that they are exotic and complicated," says Chris Ireland, a University of Utah marine chemist.

A score of compounds derived from marine sources are being tested in clinical trials: one such compound, trabectedin, has been isolated from *Ecteinascidia turbinata*, a Mediterranean and Caribbean tunicate, whose colonies look like translucent orange grapes. A pharmaceutical company based in Spain, PharmaMar, is testing a drug, Yondelis, from this compound against several cancers. Another compound, contignasterol, is the source of a potential treatment for asthma being developed by a Canadian company, Inflazyme. The drug, based on a substance found in a Pacific sponge, *Petrosia contignata*, reportedly produces fewer side effects than current medications and can be swallowed instead of inhaled.

In the United States, a marine-derived drug that has been extensively tested for the treatment of chronic pain is Prialt. It is based on venom from a species of Pacific cone snail, whose poisonous harpoonlike stingers can paralyze and kill fish and humans. At least 30 people have died from cone-snail attacks. Biochemist Baldomero Olivera of the University of Utah, who grew up in the Philippines and collected cone-snail shells as a boy, conducted the research leading to the discovery of the drug. He and his colleagues extracted a peptide from the venom of *Conus magus* (the magician's cone). "I thought that if these snails were so powerful that they could paralyze the nervous system, smaller doses of the compounds from the venoms might have beneficial effects," Olivera said. "Cone snails are of exceptional interest because the molecules they make are very small and simple, easily reproducible." In January, the Irish pharmaceutical firm Élan announced that it had completed advanced trials on Prialt in the United States. The drug, acting on nerve pathways to block pain more effectively than traditional opiates, appears to be 1,000 times more potent than morphine—and, researchers say, lacks morphine's addictive potential and exhibits a reduced risk of mind-altering side effects. One research subject, a Missouri man in his 30s who had suffered from a rare soft-tissue cancer since he was 5, reported to sci-

KATHERINE LAMBERT; MARK FLOYD / OREGON STATE UNIVERSITY NEWS AND COMMUNICATION SERVICES

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In waters off Antarctica, scientists including University of South Florida's Bill Baker, second from left, and University of Alabama at Birmingham's Jim McClintock, far right, pursue such exotics as the red sponge (right), said to harbor medicinal chemicals.

entists at the Research Medical Center in Kansas City that his pain had abated within days of receiving Prialt. About 2,000 people have received the drug on an experimental basis; Élan plans to submit the data to the FDA for review and possible approval of Prialt, with a decision expected as early as next year. Other researchers are investigating the potential of cone-snail venoms, the components of which may number up to 50,000, in the treatment of nervous system conditions such as epilepsy and stroke.

Two antiviral drugs already on the market might be said to have been inspired by marine product chemistry: Acyclovir, which treats herpes infections, and AZT, which fights the AIDS virus, HIV. Those drugs can be traced to nucleosidic compounds that chemist Werner Bergmann isolated from a Caribbean sponge, *Cryptotheca crypta*, in the 1950s. "These are arguably the first marine drugs," says David Newman.

Marine-derived products other than drugs are already on the market. For example, two essential fatty acids present in human breast milk are also manufactured by a marine microalga, *Cryptocodinium cohnii.* Infant-formula makers use the algae-derived substances in some products. An enzyme synthesized from microbes found in undersea hydrothermal vents has proved highly effective in decreasing underground oil viscosity—and therefore increasing oil-well yields. Already, automakers are using one compound, based on glues made by the common blue mussel, to improve the adherence of paint; sutureless wound closure and dental fixatives are other possible applications. New varieties of artificial bone grafts, produced from ground-up corals, possess a porosity that precisely mimics that of human bone tissue. A group of compounds with anti-inflammatory properties called pseudopterosins have been extracted from a Caribbean gorgonian (a soft coral) and are included in an antiwrinkle cream marketed by Estée Lauder.

With the field of marine products chemistry showing such promise, a new breed of hybrid scientist has emerged: scuba-diving chemists. They generally spend half their time shaking beakers in a lab, the other half scraping strange-looking things off underwater rocks. Jim McClintock, a University of Alabama at Birmingham marine-chemical ecologist, collects bottom-dwellers in the waters off Antarctica. A perhaps unexpected diversity of organisms thrives there, with more than 400 species of sponges alone. To explore that environment, McClintock and his co-investigators have to pry open sea ice eight to ten feet thick with chain saws, drills or even dynamite. They wear 100 pounds or so of diving gear, including special kinds of super-insulated diving suits, known as dry suits, and descend into deep, narrow holes—often with as little as a two-inch clearance in front of their noses. In this hermetic world, the water may appear pitch-black or gloriously illumined, depending on how much snow covers the ice overhead. Leopard seals, 1,000-pound predators that devour penguins and other seals, may demonstrate a hungry interest in the divers. McClintock recalls seeing a behemoth charging menacingly and surfacing through a crack in the ice to swipe at researchers topside. "I try to stay out of the food chain," he says. Back at the University of Alabama, McClintock's col-

CHARLES AMSLER; NORBERT WU

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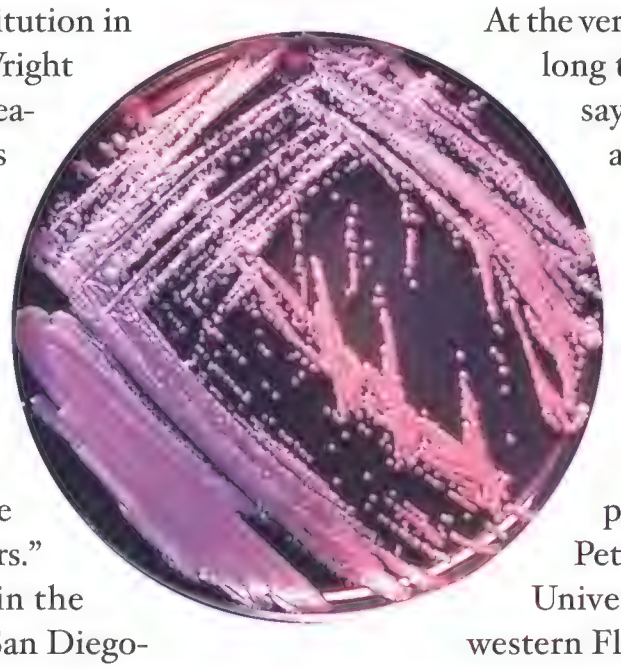
A BRIGHT RED BRISTLEWORM, A CENTIPEDE-LIKE CREATURE, DROPPED ONTO THE DECK. "DON'T TOUCH THAT," SAID SCIENTIST RAINEY. "IT WILL HURT LIKE HELL. AT THE VERY LEAST."

league, molecular biologist Eric Sorscher, screens Antarctic organisms for compounds; he has identified a few that may be tested for the treatment of cystic fibrosis. The Pennsylvania-based pharmaceutical firm Wyeth recently detected antibiotic and anticancer properties in extracts from Antarctic sponges and tunicates.

Tropical waters pose their own hazards. Bill Gerwick, who refers to the blue-green algae he studies as "pond scum," says that his specimens prefer the same cloudy bays favored by stinging jellyfish, saltwater crocodiles and sharks. His colleague, Phil Crews, a natural products chemist at the University of California at Santa Cruz, finds people more threatening. In New Guinea in 1999, villagers, fearing that the scientists were invading fishing grounds off their island, attacked Crews with spears and slingshots. Another time, a machine-gun-wielding gang of young Indonesian soldiers boarded Crews' research vessel and demanded money. "Basically," Crews says, "we came up with enough cash."

He has identified more than 800 compounds in tropical sponges. One promising source of cancer-fighting substances are the compounds called bengamides, after Fiji's Beqa (pronounced "Benga") Lagoon, where Crews collected the original specimens. Gerwick has isolated a substance he christened kalkitoxin, from an algae collected off the Caribbean island of Curaçao; he says it has potential as a treatment for some neurodegenerative disorders and possibly cancer, as well as pain control.

Technology is opening the deep sea to bioprospecting. In the past, biologists hoping to collect samples from waters as deep as 3,000 feet could do little more than sink trawl nets and hope for the best, says Amy Wright, an organic chemist at Harbor Branch Oceanographic Institution in Fort Pierce, Florida. But since 1984, Wright has collected from inside the Johnson-Sea-Link I and II, deep-water submersibles equipped with robotic claws and high-powered vacuums. They have enabled her to gather delicate sea fans and a host of other organisms intact, mainly from the Atlantic and the Caribbean. "It's always a surprise," she says. A compound from a Caribbean sponge, *Discodermia*, "is now in clinical trials for the treatment of pancreatic and other cancers."

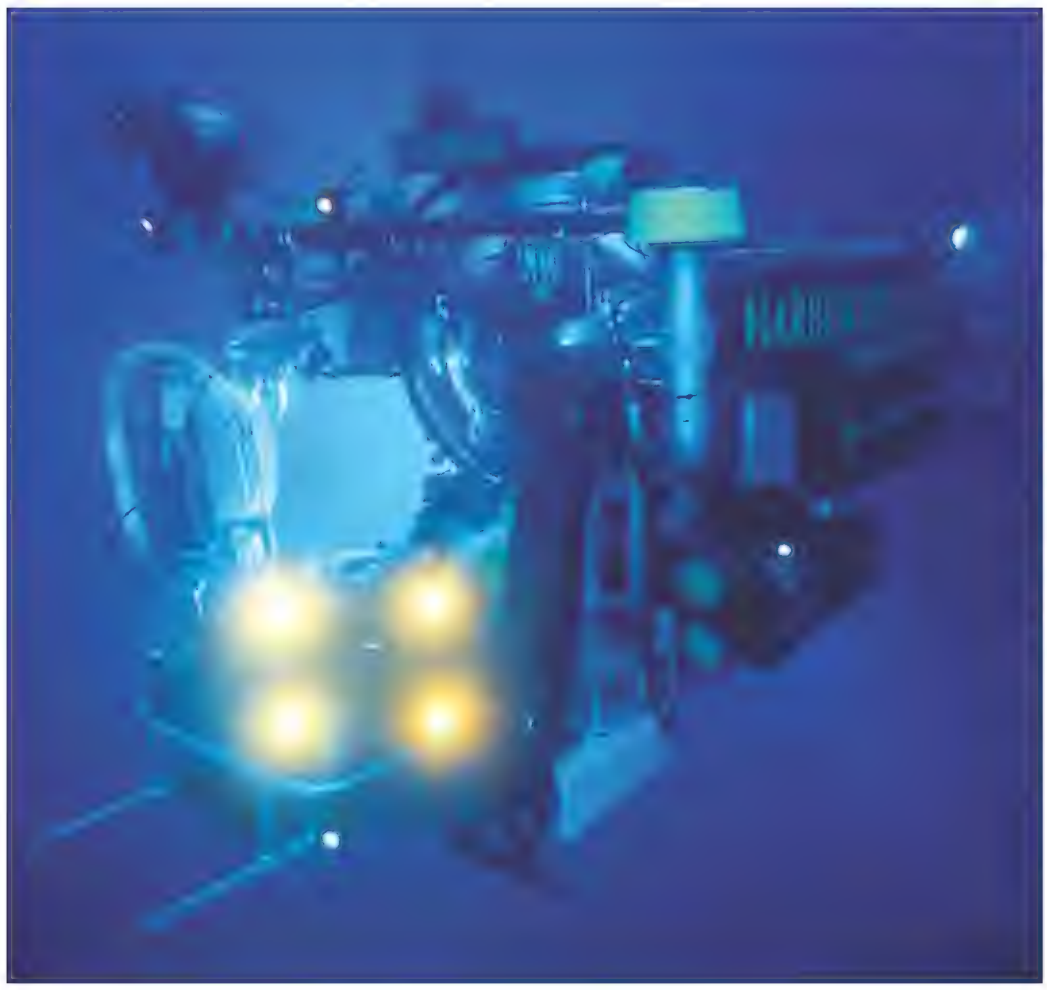


The deep sea has turned up leads in the quest for oceanic pharmaceuticals. A San Diego-based biotechnology firm, Diversa, announced two years ago that its scientists had sequenced the genome of *Nanoarchaeum equitans*, an unusual organism collected from a seafloor vent north of Iceland. The organism, smaller and simpler and with less DNA than any known bacterium, is being studied as a possible minuscule, living factory for the production of marine chemicals. "We can use what we learn from Nanoarchaeota to figure out something very basic: which genes are essential and which we can do without," says Michiel Noordewier, a researcher at Diversa. "This is the smallest genome ever found."

SUDDENLY A SQUADRON of bluefish, converging in a feeding frenzy, thrashed out of the waves and began snapping at the swells' surfaces—a reminder of the astonishing variety of marine life around the Gulf of Mexico oil platforms. A few minutes later, the divers surfaced one at a time and clambered onto the deck—just in time. What looked like a shark fin had flashed in the water 100 feet off starboard. They hauled the specimen bag out of the water and onto a table.

What spilled out of the laundry-basket-size bag was mind-boggling. Amid a matrix of varicolored, agglutinated barnacles—their shells opening and closing, working overtime in the air—grew tiny tube worms; strands of telesto coral, branching like miniature caribou antlers; and hydroids, filter-feeding organisms resembling ferns. Juan López-Bautista, the expedition's algae expert, picked through the tangled mass with long tweezers, teasing out flywing-shaped specks of purple and green. Each tiny dot, he said, probably contains several algae species. Tiny crabs, brittle stars, shrimplike amphipods and delicate, green marine worms wriggled from the muddy gunk. Something bigger wriggled into view. Rainey quickly stepped back. A bright red bristleworm, a centipede-like creature spiked with poison-tipped spines poking out from its six-inch-long body, dropped onto the deck. "Don't touch that," he said. "It will hurt like hell. At the very least." He snared the bristleworm with long tweezers and gingerly placed it in a jar, saying: "We're going to grind up your gut and see what kind of microbes you have."

The research team failed to find one creature they had particularly sought: the bryozoan *Bugula neritina,* a tiny, tentacled aquatic organism that looks like a piece of moss the size of a quarter. It yields a compound currently being tested as a cancer drug; the compound originally was identified by George Pettit, an organic chemist at Arizona State University, who collected the bryozoans off western Florida. He found that compounds from the *Bugula* demonstrated anticancer properties, and in 1981 he isolated a compound he christened bryostatin. Lab tests have found that it attacks various malignancies. It is currently undergoing advanced human trials in the United States, Canada and the United Kingdom.



Actinomycetes bacteria from the Gulf of Mexico (opposite) may yield an antibiotic. The Harbor Branch Oceanographic Institution's submersible (left) lets scientists (Shirley Pomponi, left, and Amy Wright sort sponges) gather unusual organisms 3,000 feet deep.

WES SKILES / HARBOR BRANCH; HARBOR BRANCH

More than two decades after Pettit's discovery, scientists at Harvard and in Japan have synthesized small amounts of the complex molecule, which is in great demand. Researchers in California have discovered populations of *Bugula* growing on West Coast oil platforms. The team was hoping to find a *Bugula* source in the Gulf. But not today.

EARLY THE NEXT MORNING, as the day dawned clear, the *Spree* floated in a calm sea alongside 82-A, a big platform lying 27 miles out in clear blue water. We could see the divers 20 feet down. A Portuguese man-of-war floated by; schools of feeding fish, extending on all sides for perhaps half an acre, flashed at the surface. A four-foot-long barracuda cruised in to investigate. Then the divers began to resurface; within minutes, everyone had climbed aboard. The take this time was also dazzling—extravagant pink conchs, spiny pure-black sea urchins the size of half dollars, and mats of what the biologists call "scunge," gooey conglomerations of bacteria and algae.

The next platform, lying also in blue water, offered up bell-like corals, tiny purple-and-white octopuses and—at last—a few strands of seemingly unimpressive reddish mossy stuff, possibly the much-sought bryozoan *Bugula neritina*. "We'll have to wait until we get back to the lab," said Rainey. "A lot of these things look alike."

By the time we reached the fourth platform, we'd returned to silty waters opaque with Mississippi River mud, which may well also contain contaminants ranging from petroleum runoff and mercury from power-plant emissions to raw sewage. Perhaps most toxic to marine life is chemical fertilizer, washed from farms upriver. In fact, many environments where aquatic life once thrived have simply vanished; estuaries and bays along much of the coastal United States were long ago filled or otherwise destroyed. Ironically, oil platforms some distance from shore may constitute the last best hope for some marine organisms.

The *Spree* reached the last site, 23-EE, just as a strong wind rose out of the south. The crew secured the vessel to the rig, but the *Spree* would not stay put; the wind and an opposing north current battered us at our mooring. What to do? The divers said they could avoid being crushed by the tossing boat—but only if they could discern the vessel from below, which was unlikely. About 60 feet down, visibility would be nil. Yet nobody wanted to quit. "Well, what's the worst that could happen?" asked one diver. "We get lost, or die." Everyone laughed nervously.

"Well, if you get lost, I'll look for you," Captain Frank said. "For a couple of hours at least, depending on how much money you left in your wallet." More anxious laughter.

"What about the surface sample?" inquired Rainey.

"That is a no-go," said Mark Miller, one of the divers. Whitecapped four-foot swells dashed against the platform legs, which were studded with several inches of razor-sharp mussel shells.

"Let's abandon this," Rainey said. "It's not worth the risk." He may be a landlubber microbiologist, but he respected the power of the ocean. Whatever promising slime was down there, it would have to wait for another day.

ABRAHAM LINCOLN *He declared in 1858 that the nation could not endure "half slave, and half free."*

STEPHEN DOUGLAS *His new law promoted the "right of the people to decide" locally the issue of slavery.*

JOHN BROWN *The abolitionist's last words were that slavery "will never be purged away but with blood."*

DAVID ATCHISON *The Missouri senator vowed to see Nebraska "sink in hell" if slavery were prohibited.*

THE LAW THAT RIPPED AMERICA IN TWO

One hundred fifty years ago, the Kansas-Nebraska Act set the stage for America's civil war ~ BY ROSS DRAKE

ABOLITIONIST JOHN BROWN—failed businessman, sometime farmer and full-time agent, he believed, of a God more disposed to retribution than mercy—rode into the Pottawatomie Valley in the new territory of Kansas on May 24, 1856, intent on imposing "a restraining fear" on his proslavery neighbors. With him were seven men, including four of his sons. An hour before midnight, Brown came to the cabin of a Tennessee emigrant named James Doyle, took him prisoner despite the pleadings of Doyle's desperate wife, and shot him dead. After butchering Doyle and two of his sons with broadswords, the party moved on to kill two other men, leaving one with his skull crushed, a hand severed and his body in Pottawatomie Creek.

In a sense, the five proslavery settlers were casualties not merely of Brown's bloody-mindedness but also of a law described by historians William and Bruce Catton as possibly "the most fateful single piece of legislation in American history." Ironically, the Kansas-Nebraska Act, passed by Congress 150 years ago this month (100 years to the week before the landmark Supreme Court decision—Brown v. Board of Education—barring school segregation), was meant to quiet the furious national argument over slavery by letting the new Western territories decide whether to accept the practice, without the intrusion of the federal government. Yet by repealing the Missouri Compromise of 1820, which had outlawed slavery everywhere in the Louisiana Purchase north of Missouri's southern border (except for Missouri itself), the new law inflamed the emotions it was intended to calm and wrenched the country apart.

As a result of the legislation's passage, resentments became bloody hostilities, the Democratic Party lay shattered, a new Republican Party was created and an Illinois lawyer named Abraham Lincoln embarked on the road to the presidency. Had the law made civil war unavoidable? "I'd put it this way," says historian George B. Forgie of the University of Texas. "Whatever the chances of avoiding disunion before Kansas-Nebraska, they fell dramatically as a result of it."

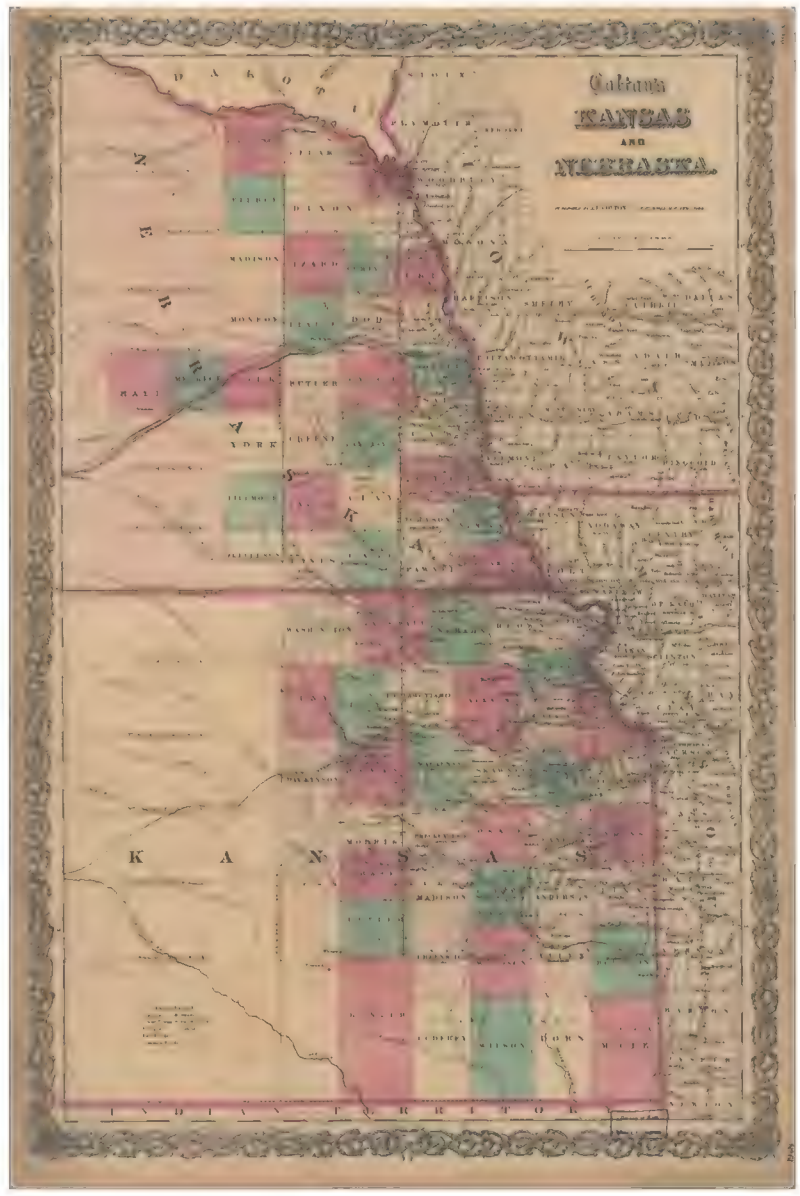
The author of the bill—officially called "An Act to Organize the Territories of Nebraska and Kansas"—was Senator Stephen A. Douglas of Illinois, eclipsed in history by his rival Lincoln, but for most of his lifetime a figure of far greater national consequence. Short-legged and barrel-chested, with a head disproportionately large for his body, the 5-foot-4 Democrat, known to admirers as the Little Giant, was a gifted, dynamic, rough-mannered man who seemed destined to be president. Ferocious in debate (the author Harriet Beecher Stowe likened his forensic style

CORBIS; HULTON ARCHIVE / GETTY IMAGES; BOSTON ATHENAEUM; LIBRARY OF CONGRESS; BACKGROUND: LIBRARY OF CONGRESS

to "a bomb . . . [that] bursts and sends red-hot nails in every direction"), he first ran for Congress at age 25 against Lincoln's law partner, John T. Stuart. (Douglas lost by 36 votes.) Douglas biographer Robert W. Johannsen reports that Stuart once became so incensed at Douglas' language that he "tucked him under his arm, and carried him around the Springfield markethouse. Douglas, in return, gave Stuart's thumb such a bite that Stuart carried the scar for many years afterward."

Douglas was equally combative in Congress. An avid backer of the Mexican War of 1846-48, he looked forward, if not to an American empire, at least to a republic spanning the continent. But his ambitions could hardly be realized by a nation at war with itself. The problem, as always, was slavery. As the boundaries of the nation moved westward, threatening the tenuous balance of power between slaveholding states and free states, Congress had struck the bargains needed to keep the Union intact without confronting the issue of slavery head-on. One accommodation had followed another, but time was not on the side of evasion. Observes historian Paul Finkelman of the University of Tulsa: "As Lincoln said in his second inaugural address, 'all knew that this interest'—slavery— 'was somehow the cause of the war.' That 'interest' was not likely to go away peacefully. Sooner or later the American people had to come to terms with it."

Mildly opposed to slavery in principle, Douglas regarded the issue as more a dangerous distraction than a fundamental obstacle to the Republic's survival. White America's destiny, in his view, was to extend its domain from the Atlantic to the Pacific, not to agonize over the dubious rights of those he considered his racial inferiors. With that perspective in mind, he had helped arrange the historic Compromise of 1850, which admitted California to the Union as a free state while placing no restrictions on slavery in the new territories of Utah and New Mexico. Voters there would decide for themselves whether or not to permit slavery, and the principle would be known as popular sovereignty.



Repealing an 1820 law banning slavery in territories north of Missouri's southern border, the Kansas-Nebraska Act left both territories (as mapped out in 1855) up for grabs.

But four years later Douglas had a different agenda. Early in 1854, hoping to open the way for a railroad linking California with Illinois and the East, he wanted Congress to approve the establishment of the Nebraska Territory in the vast wilderness west of Missouri and Iowa. Douglas had sought such approval before, but lacked the Southern votes to get it. Further bargaining would now be necessary, and the stakes this time would include the Missouri Compromise, for more than 30 years the foundation of federal policy regarding the expansion of slavery. If Nebraska were organized with the compromise in place, it would be slave-free and slave-state Missouri would be bordered on three sides by free states and territories. Missouri's influential—and rabidly proslavery—senator, David Atchison, had a problem with that; he wanted Nebraska opened to slavery, and vowed to see it "sink in hell" if it were not.

Thus began a delicate negotiation in which Douglas, who had once described the Missouri Compromise as "a sacred thing, which no ruthless hand would ever be reckless enough to disturb," searched for a politic way of disturbing it—something short of outright repeal. But his would-be Southern allies, fearing that any ambiguity about the compromise's survival would discourage slaveholders from moving to Nebraska, wanted it struck down unequivocally. Douglas was reluctant, but finally agreed. "By God, sir," he is said to have exclaimed to Kentucky senator Archibald Dixon, "you are right. I will incorporate it into my bill, though I know it will raise a hell of a storm."

He was right about that. Even as he saw his bill through the Senate (it now called for the division of Nebraska into two territories, one of them Kansas) and an uneasy House of Representatives, vilification rained from the pulpit, the press and a Congressional vanguard of outraged Free-Soilers, as those who opposed slavery's extension were known. At one point the Senate received a petition 250 feet long and signed by more than 3,000 New England clergymen urging the bill's defeat "in the name of Almighty God." Douglas detested abolitionists and sought in vain to cast the protests as the work of extremists.

ROSS DRAKE wrote on dueling in America in the March issue of SMITHSONIAN. *He is based in Connecticut.*

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THERE WAS, IN FACT, a growing antipathy in the North toward slavery. Moreover, observes Forgie, "the upending of a permanent deal naturally antagonizes people disadvantaged by it, and [Kansas-Nebraska] fed existing worries that the slaveholding class was bent on extending its power nationally, with the goal of ultimately destroying republican institutions. Also, the law seemed to promise the movement of blacks into areas Northern whites had assumed were to be reserved for them."

Though Douglas later observed that he could have made his way from Boston to Chicago "by the light of my own effigy," he was not about to be intimidated. He was, after all, a practical man, and he saw Kansas-Nebraska as a practical bill. By transferring authority over slavery from Congress to the territories themselves, he believed he was removing a threat to the Union. Nor did he think it likely that slavery would spread from the 15 states where it existed to the areas being opened for settlement. But when it came to judging public feeling on the issue, the senator was, unhappily, tone-deaf.

"He was a Northern man who was Southern in his views on race," explains Finkelman. "He said he didn't care whether slavery was voted up or down, but most Northerners *did* care. He may have been the only person in America who didn't. Many Northerners, and Lincoln is a great example, thought the Missouri Compromise was just a notch below the Constitution as a fundamental part of the American political framework. They saw it as putting slavery on the road to extinction, and that was for them a sacred goal. Kansas-Nebraska betrayed this." And so, the battle lines were drawn.

Douglas seemed unfazed at first, confident he could undo the damage. He soon discovered otherwise. Speaking in Chicago on behalf of his party to kick off the 1854 Congressional election campaign in Illinois—though he wasn't on the ballot himself—Douglas was interrupted by "an uproar of shouts, groans and hisses," reports Johannsen. "Missiles" were thrown, and "to the delight of the crowd, Douglas lost his temper, denouncing the assemblage as a mob and replying to their taunts by shaking his fist, which only intensified the din. . . . " Douglas put up with the heckling for more than two hours, then angrily strode from the platform. "It is

That's right! Columbia lay it on to him, for he richly deserves it, give him the Stripes till he sees Stars.—
You have been a bad boy Steve, ever since you had anything to do with that Nebraska Bill and have made a great deal of trouble in the family and now I'll pay you for it.
MAINE LAW.
let me off this I'll never do so
STEPHEN FINDING "HIS MOTHER."

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Vilified as proslavery and mocked for his short stature, Stephen Douglas takes a beating in this 1860 Currier and Ives lithograph.

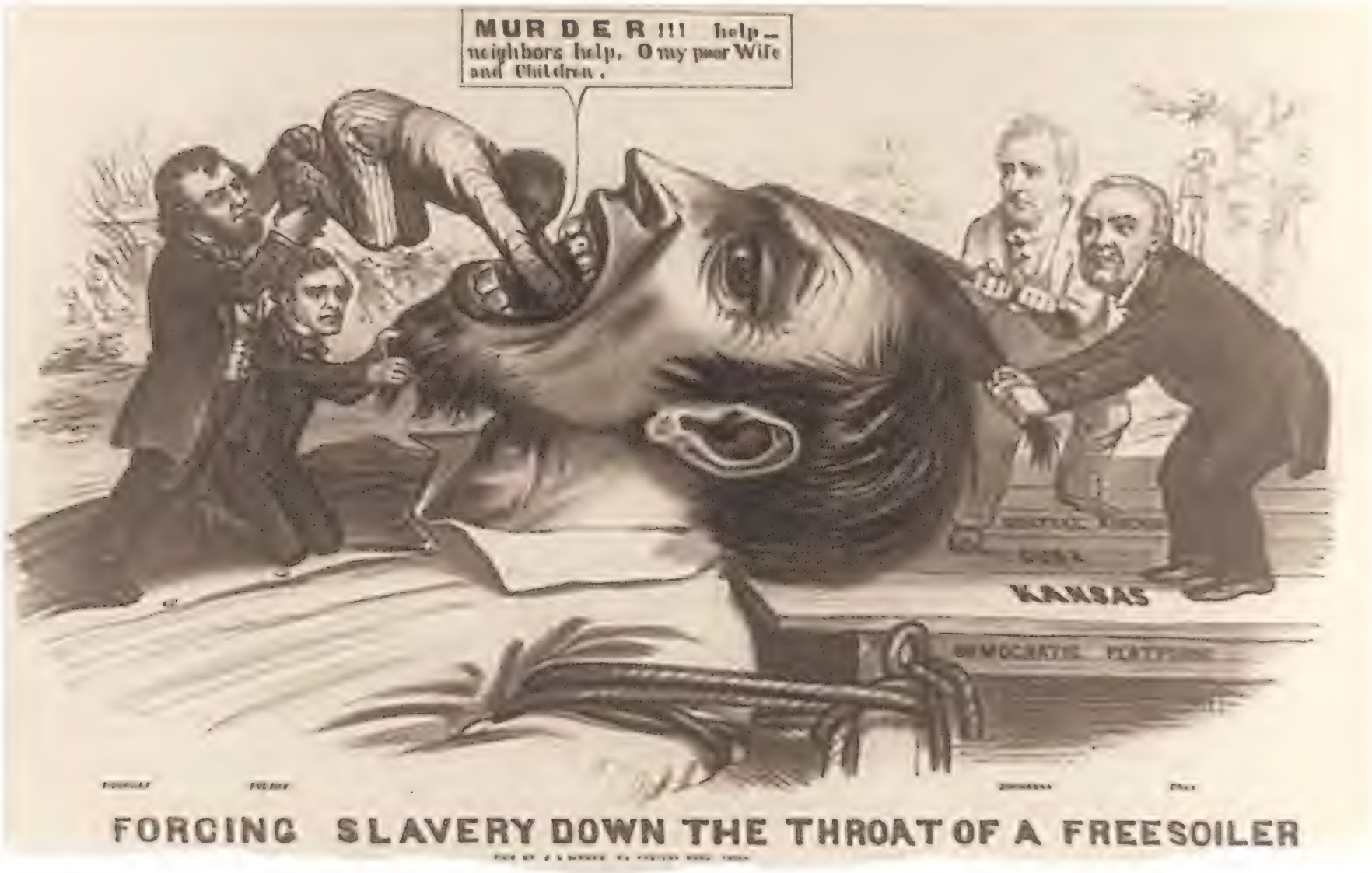
now Sunday morning," he was said to have shouted back at his tormentors (though some historians doubt that he did). "I'll go to church, and you may go to hell!"

The ensuing election confirmed the devastating impact of Douglas' bill on his Democratic party. Opponents of the Kansas-Nebraska Act carried both houses of the Illinois legislature, which at that time still elected U.S. senators, and free-state Democrats lost 66 of their 91 seats in the House of Representatives. Suddenly, the Democrats found themselves a Southern party, one that would be able after 1856 to elect only one president in the remainder of the century.

Meanwhile, Abraham Lincoln, a former one-term congressman nearly five years out of office, had joined the fray. Stumping for Richard Yates, a candidate for Congress in the 1854 election, Lincoln tore into Kansas-Nebraska, calling it "covert real zeal for the spread of slavery." In so doing, he was directly challenging Douglas, setting the stage for the crucial debates between them four years later that would make Lincoln a national figure. "I was losing interest in politics," he wrote in a letter in 1859, "when the repeal of the Missouri Compromise aroused me again." Lincoln was capable of raising the slavery debate to a level at which Douglas seems profoundly disadvantaged, in retrospect (as he wasn't then), by his obvious disdain for blacks, slave or free. "I care more for the great principle of self-government," Douglas would one day declare, ". . . than I do for all the negroes in Christendom." According to his biographer William Lee Miller, Lincoln quoted Douglas as saying that in all contests between the Negro and the crocodile, Douglas was for the Negro, but that in all questions between the Negro and the white man, he was for the white man.

While Douglas viewed popular sovereignty as a bedrock democratic value, Lincoln saw its application to slavery as a callous statement of moral indifference. And he equated revoking the Missouri Compromise with repudiating the Declaration of Independence itself. "Near eighty years ago," he observed, "we began by declaring that all men are created equal; but now . . . we have run down to the other declaration, that for *some* men to enslave *others* is a 'sacred right of self-government.'"

Though Lincoln's feelings about what he called "the monstrous injustice of slavery" were sincere, he was no abolitionist, and he felt bound to accept slavery where it existed. He was, like Douglas, a practical man, with whom the Union always came first. He endorsed the spirit of compromise on which it depended, and which he believed Kansas-Nebraska subverted. "And what shall we have in lieu of [this spirit]?" he asked. "The South flushed with triumph and tempted to excesses; the North, betrayed, as they believe, brooding on wrong and burning for revenge. One side will provoke; the other resent. The one will taunt, the other defy; one aggresses, the other retaliates."



Democrats (in a 1856 cartoon) paid a heavy price for the perception that they would go to any lengths to advance slavery.

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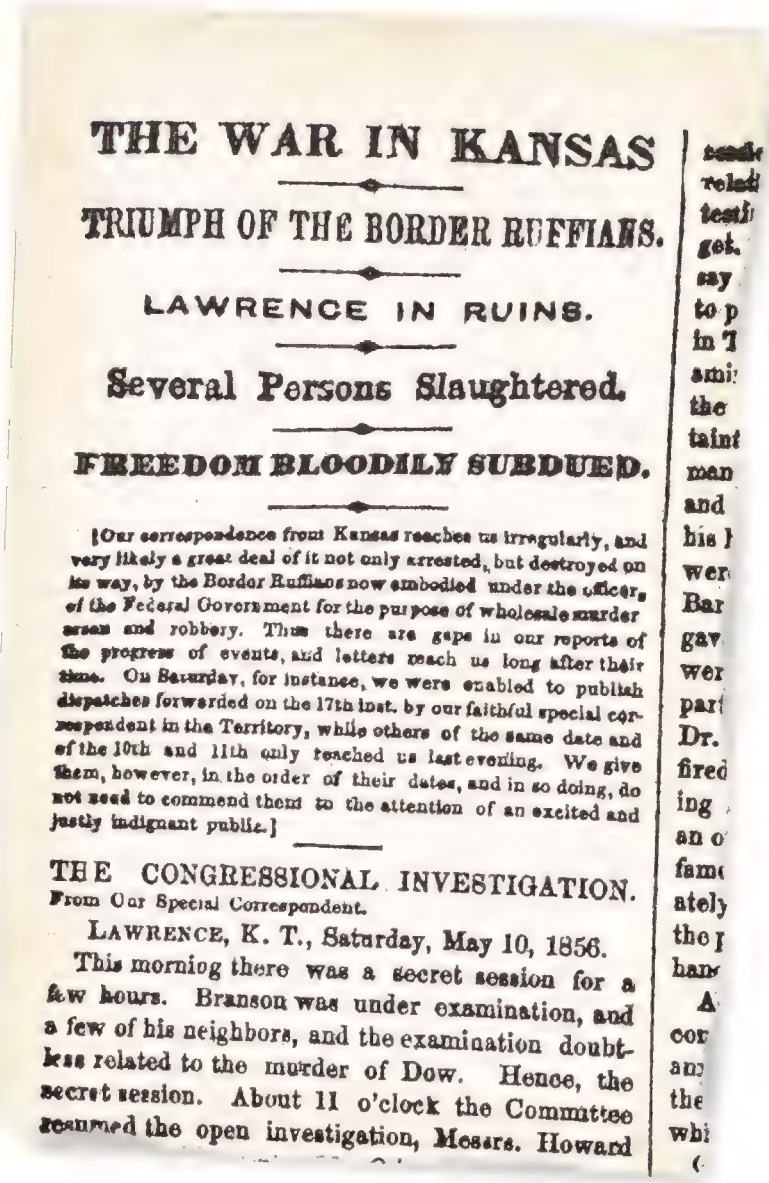
That is precisely what happened. "Any plausible explanation of the failure to find another sectional compromise in 1860-61 would have to include the fact that [trust in such agreements] took a deadly hit with Kansas-Nebraska," says Forgie. "Why would anyone sign on to a compromise again?" And once awakened, the South's hope that Kansas might become the 16th slave state took on a tenacious life of its own. When the North proved equally determined to keep Kansas free, the territory turned into a battlefield.

Events quickly took an ominous turn. When New England abolitionists formed the Emigrant Aid Company to seed Kansas with antislavery settlers, proslavery Missourians sensed an invasion. "We are threatened," an acquaintance complained in a letter to Senator Atchison, "with being made the unwilling receptacle of the filth, scum and offscourings of the East . . . to preach abolition and dig underground Railroads."

In fact, most emigrants did not go to Kansas to preach anything, much less to dig. As likely to be antiblack as they were antislavery, they went for land, not a cause. Likewise, most proslavery settlers had neither slaves nor the prospect of having any. Yet these distinctions didn't much matter. Kansas became part of the larger American drama, and the few thousand settlers who made their home in the territory found themselves surrogates, reluctant or not, of the inexorable issues that threatened the Union. "Kansas," says Forgie, "much like Korea or Berlin in the Cold War, readily took form as the arena in which a battle was being waged for much larger stakes. Which section's institutions would shape the future of the continent?"



THE WAR IN KANSAS

TRIUMPH OF THE BORDER RUFFIANS.

LAWRENCE IN RUINS.

Several Persons Slaughtered.

FREEDOM BLOODILY SUBDUED.

[Our correspondence from Kansas reaches us irregularly, and very likely a great deal of it not only arrested, but destroyed on its way, by the Border Ruffians now embodied under the officers of the Federal Government for the purpose of wholesale murder arson and robbery. Thus there are gaps in our reports of the progress of events, and letters reach us long after their time. On Saturday, for instance, we were enabled to publish dispatches forwarded on the 17th inst. by our faithful special correspondent in the Territory, while others of the same date and of the 10th and 11th only reached us last evening. We give them, however, in the order of their dates, and in so doing, do not need to commend them to the attention of an excited and justly indignant public.]

THE CONGRESSIONAL INVESTIGATION.

From Our Special Correspondent.

LAWRENCE, K. T., Saturday, May 10, 1856.

This morning there was a secret session for a few hours. Branson was under examination, and a few of his neighbors, and the examination doubtless related to the murder of Dow. Hence, the secret session. About 11 o'clock the Committee resumed the open investigation, Messrs. Howard

Despite the New York *Tribune*'s headlines, the so-called sack of Lawrence, Kansas, on May 21, 1856, by pro-slavery forces, resulted in the death of only one individual.

ist in the territory!" When the new legislature promptly expelled its few antislavery members, the disenfranchised Free-Soilers set up their own shadow government.

The territory was soon awash with secret societies and informal militias, formed ostensibly for self-defense, but capable of deadly mischief on both sides. Kansas was a powder keg awaiting a match, and it found one in the shooting of Douglas County sheriff Samuel Jones, an unrestrained proslavery man, by an unknown assailant, as he sat in his tent outside the Free-Soil stronghold of Lawrence. Soon afterward, the Douglas County grand jury, instructed by a judge angered by what he regarded as Free-Soilers' treasonous resistance to the territorial government, returned sedition indictments against the Free-Soil "governor," Charles Robinson, two Lawrence newspapers and the town's Free State Hotel, supposedly being used as a fortress. Soon a posse descended on Lawrence, led by a federal marshal who made several arrests before dismissing the troops. It was then that Sheriff Jones, recovered from his wound (but not, in the view of historian Allan Nevins, from being "a vindictive, blundering fool"), took over the posse, which looted the town, wrecked the newspapers' presses, set fire to Robinson's house and burned the hotel after failing to destroy it with cannon fire.

It was a bad day for Lawrence, but a better one for the nation's antislavery press, which made the sack of Lawrence, as it was called, sound like the reduction of Carthage. "Lawrence in Ruins," announced Horace Greeley's New York *Tribune*. "Several Persons Slaughtered—Freedom Bloodily Subdued." (In fact, the only fatality in Lawrence was a slave-stater struck by falling masonry.)

As exaggerated as the "sack" may have been, in the climate of the day it was bound to have consequences. John Brown quickly set them in motion. He had been on his way to help defend Lawrence with a group called the Pottawatomie Rifles when he learned he was too late and turned his attention to the unfortunate Doyles and their neighbors. (Three years later, on October 16, 1859, Brown and his followers would stage a bloody attack on a federal armory in Harpers Ferry, Virginia. Cornered by U.S. Marines under the command of Col. Robert E. Lee, a wounded Brown would be taken prisoner, convicted and hanged.)

WHAT HAPPENED in Kansas has been called a bushwhackers' war, and it began with a bushwhacked election. Defending themselves against what they saw as Yankee fanatics and slave stealers, thousands of Missourians, led by Senator Atchison himself, crossed the border into Kansas in March 1855 to elect, illegally, a proslavery territorial legislature. "There are eleven hundred coming over from Platte County to vote," Atchison shouted at one point, "and if that ain't enough we can send five thousand—enough to kill every God-damned abolition-

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REACTION IN KANSAS to Brown's Pottawatomie killing spree was swift. Proslavery settlers were furious, fearful and primed for revenge, and many Free-Soilers were horrified—as well they might have been, since the incident was followed by an outbreak of shootings, burnings and general mayhem. Yet the larger Eastern audience hardly knew what had happened. Like the sack of Lawrence, the Pottawatomie murders were transformed in the telling. Either they hadn't happened at all, had been committed by Indians or had occurred in the heat of battle. In the great propaganda war being waged in the Northern press, slave-state Kansans were invariably cast as the villains, and it was a role they were not to escape.

Sometimes they seemed not to be trying, as when the tainted proslavery legislature made even questioning the right to hold slaves in Kansas a felony and made aiding a fugitive slave a capital offense. Neither law was enforced, but that was probably not the point. Unable to match the flood of Free-Soil emigrants pouring in from the Ohio Valley and elsewhere, slave-staters seemed more determined than ever to make the territory inhospitable to those opposed to slavery.

And they did not lack for allies. "The admission of Kansas into the Union as a slave state is now a point of honor with the South," wrote South Carolina congressman Preston Brooks in March 1856. "It is my deliberate conviction that the fate of the South is to be decided with the Kansas issue." Thus freighted with national consequence, resolution of the Kansas question would hardly be left to Kansans alone. Under the circumstances, it seems unsurprising that presidents Franklin Pierce and James Buchanan, Northern men of pronounced Southern sympathies, both endorsed the legitimacy of the illegitimate legislature over the objections of a succession of territorial governors.

Among them was Robert J. Walker, a former Treasury secretary and a Douglas ally. Meeting with President Buchanan before leaving Washington in the spring of 1857, he spelled out his understanding, with which Buchanan agreed, that Kansas would be admitted to statehood only after residents were able to vote freely and fairly on a state constitution.

It sounded simple enough. But the difficulty of its execution was made clear when, at a welcoming banquet in Kansas, the diminutive Walker was upbraided by one of his proslavery hosts: "And do you come here to rule us? You, a miserable pigmy like you?. . . Walker, we have unmade governors before; and by God, I tell you, sir, we can unmake them again!" Certainly they were ready to try. After Free-Soilers refused to participate in what they believed, with reason, would be a rigged election for constitutional convention delegates, the proslavery convention, meeting in the town of Lecompton, made a crucial decision.

Rather than being allowed to vote up or down on a proposed constitution, Kansans would be given a choice between a constitution with slavery and a constitution without it. But the constitution without it contained a clause allowing slaveholders already in the territory to retain not only their slaves but the slaves' offspring. Free-Soilers, naturally, saw their choice as being not between slavery and its absence, but between a little bit of slavery and a lot of it—or, as one Kansan put it, between taking arsenic with bread and butter and taking it straight. When the options were put to a vote, Free-Soilers once again declined to take part.

By this time, the battle had been joined in Washington. Over the objections of Governor Walker, Buchanan had decided to accept the verdict of the Lecompton convention and the inevitable approval of its slave-state constitution. The president's decision led him to an angry confrontation with Douglas, who saw it as a betrayal of the very popular sovereignty on which the senator had staked his career.

Now, as always, Douglas saw himself as the defender of the sane middle ground, where the Union might be saved from extremists. But when the House of Representatives, at Douglas' urging, refused to accept the slave-state constitution submitted by Kansas, Southerners who had supported Douglas' notion of popular sovereignty when it suited their purposes now abandoned both it and Douglas. And Buchanan, who had boldly proclaimed Kansas "as much a slave state as Georgia or South Carolina," became Douglas' implacable enemy. The South had elected Buchanan, and he was desperately afraid of secession; he couldn't bring himself to back down on Lecompton.

Yet neither could Douglas. Whatever a compromise might have gained him in the South would have been lost in the North and the West, where the Democrats were already in disarray. And though Douglas had made his reputation as a canny politician, he was also, at bottom, a patriot. He believed a national Democratic Party was needed to hold the Union together, and he believed he was needed to lead it. Douglas had never been a man of moderate habits, and his health in recent years had been suspect. But when, in 1860, he was at last nominated for the presidency, and found the party irretrievably damaged—Southern Democrats promptly chose a candidate of their own, John C. Breckinridge, to oppose him—he turned his remaining energy into a campaign that was as much for the Union as it was for himself. Meanwhile, Abraham Lincoln had been nominated as the presidential candidate of the new Republican Party, created in 1854 to oppose the spread of slavery.

In October, accepting the inevitability of Lincoln's election, and knowing that secession was no idle threat, Douglas courageously decided on a final tour of the South, hoping to rally sentiment to keep the nation whole. But though his reception was generally civil, the time for persuasion had passed. As if a symbol of the failure of his mission, the deck of an Alabama riverboat on which he and his wife were traveling collapsed, injuring them both and forcing Douglas to continue with the aid of a crutch. He received news of his defeat in Mobile, realized it augured a country divided and likely a war, and retired to his hotel "more hopeless," reported his secretary, "than I had ever before seen him." The following June, exhausted in body and spirit, Douglas died at age 48, just seven weeks after the fall of Fort Sumter in the opening salvo of the Civil War.

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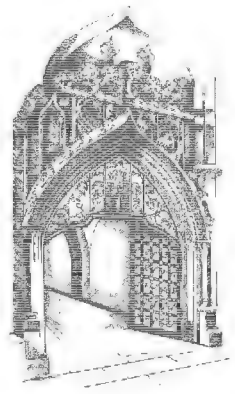

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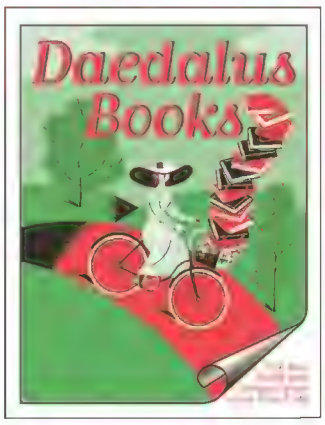

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A Fresh Look at

Diane Arbus

A new retrospective featuring an unprecedented number of the troubled photographer's images makes the case for her innovative artistry

BY TESSA DECARLO

DIANE ARBUS' WORK was included in only a handful of museum exhibitions before she died, by her own hand, at the age of 48 in 1971. Nevertheless, she had already gained renown with a series of unforgettable images—a "Jewish giant" looming over his bespectacled parents, an elderly couple sitting naked in a nudist-camp cabin, a grimacing boy clutching a toy hand grenade—that seem to reflect our deepest fears and most private wishes.

The first major retrospective of Arbus' work was held in 1972, a year after her death, at the Museum of Modern Art (MOMA) in New York City, where she lived for most of her life. The show drew huge crowds and praise for the humanity and formal beauty of her work. But some found her images disturbing, even repellent: critic Susan Sontag, for example, called her portraits of "assorted monsters and border-line cases. . . . anti-humanist." Arbus' work, Sontag wrote, "shows people who are pathetic, pitiable, as well as repulsive, but it does not arouse any compassionate feelings."

Today Arbus, who once said her pictures sought to capture "the space between who someone is and who they think they are," has become one of America's best-known photographers and one of its most controversial. But her achievements as an artist have been somewhat overshadowed by her suicide and by the disturbing strangeness that wells up out of her pictures. Famous as a "photographer of freaks," she has been regarded as something of a freak herself.

Now a new generation of viewers and critics is debating the meaning and significance of Arbus' compelling, unsettling images, thanks to "Diane Arbus Revelations," an exhibition of nearly 200 of her pictures on view at the Los Angeles County Museum of Art through May 31. The first Arbus retrospective since the 1972 MOMA show, "Revelations" places her at the center of 20th-century American photography.

"I really believe there are things which nobody would see unless I photographed them," Arbus (in 1970, a year before her death, in her downtown Manhattan apartment) once wrote.

Diane and Allan Arbus (left, in a self-portrait published in the April 1947 issue of *Glamour* magazine for an article about couples with joint careers) worked together as fashion photographers for more than a decade. "What children!" Diane (with, from left, daughters Doon and Amy on New York's Shelter Island in 1956) wrote to her parents. "They are like a nymph and a sprite."

"To cast Arbus in the role of a tragic figure who identified with freaks is to trivialize her accomplishment," says Sandra S. Phillips, senior curator of photography at the San Francisco Museum of Modern Art (SFMOMA), where the show originated. "She was a great humanist photographer who was at the forefront of what has become recognized as a new kind of photographic art."

The exhibition has already elicited strong critical reactions. *San Francisco Chronicle* art critic Kenneth Baker praised Arbus' work for its intelligence and compassion, and Arthur Lubow, writing in the *New York Times Magazine*, called her "one of the most powerful American artists of the 20th century." But others have dismissed her as guilt-ridden and morbid. "Arbus is one of those devious bohemians," wrote *The New Republic*'s Jed Perl, "who celebrate other people's eccentricities and are all the while aggrandizing their own narcissistically pessimistic view of the world."

Opinions will likely become even more deeply split as the show moves around the country—next to the Museum of Fine Arts in Houston (June 27-August 29) and then to the Metropolitan Museum of Art in New York City (March 1-May 29, 2005). Additional venues include the Museum Folkwang in Essen, Germany, the Victoria and Albert Museum in London and the Walker Art Center in Minneapolis.

Jeff Rosenheim, the Metropolitan's associate curator of photography, believes that Arbus' pictures remain provocative because they raise disturbing questions about the relationship between photographer, subject and audience. "Her work implicates you and the ethics of vision itself," he says. "Our license to have that experience of viewing another person is changed and challenged, supported and enriched. I firmly believe this might be the most important single-artist photography exhibition our museum will ever do."

Until recently, mystery surrounded many of the details of Arbus' life and work. For decades, her estate refused to cooperate with any effort to write an Arbus biography and allowed the public to see only a tiny portion of her work. All this has changed with the new exhibition, which was developed with the cooperation of the estate and its administrator, Doon Arbus, the older of Arbus' two daughters. The show includes not only Arbus' most famous pictures but also early photographs and mature work never exhibited before. In addition, displays of her books, cameras, letters and working notebooks convey a powerful sense of the photographer's personality—whimsical, brainy and endlessly curious.

TESSA DECARLO writes frequently on art and photography from her California home. This is her first article for SMITHSONIAN.

© 2003 ALLAN ARBUS (2); PP. 68, 69 © SAUL LEITER / HOWARD GREENBERG GALLERY, NYC

"This is a new view of Arbus, through her own words," says independent curator Elisabeth Sussman, who organized the retrospective with SFMOMA's Phillips. "She was extremely smart and witty and incredibly perceptive, and the photographs are just a part of that."

The exhibition catalog, *Diane Arbus Revelations* (Random House), offers not only the most complete selection of Arbus images ever put between covers but also a fascinating 104-page illustrated chronology of Arbus' life, studded with excerpts from her letters and other writings. The chronology, put together by Sussman and Doon Arbus, is effectively the first authorized biography of the photographer and the first to be able to draw on her papers.

ARBUS WAS BORN DIANE NEMEROV in 1923. Her mother, Gertrude, chose her daughter's name, pronouncing it "Dee-Ann." Talent was abundant in the Nemerov family, a wealthy New York clan that ran Russek's, a fashionable Fifth Avenue department store. Diane's older brother was Howard Nemerov, a Pulitzer Prize-winning poet who was named U.S. poet laureate in 1988. Her younger sister, Renée Sparkia, became a sculptor and designer. After retiring from Russek's, their father, David Nemerov, launched a second, successful career as a painter.

Diane's artistic and literary gifts were apparent early on. Her father encouraged her to become a painter, and she studied art in high school. At the age of 14 she fell in love with Allan Arbus, the 19-year-old nephew of one of her father's business partners. Her parents disapproved of her infatuation, but the romance flourished in secret. Soon Diane lost interest in painting and in going to college, saying her only ambition was to become Allan's wife. "I hated painting and I quit right after high school because I was continually told how terrific I was," she said many years later. "I had the sense that if I was so terrific at it, it wasn't worth doing."

Diane and Allan were married as soon as she turned 18, in 1941, with the grudging acceptance of her family. The couple pursued a shared interest in photography, turning the bathroom of their Manhattan apartment into a part-time darkroom. David Nemerov gave them work shooting fashion photographs for Russek's advertisements.

During World War II, Allan served as a military photographer. One of the earliest photographs in the "Revelations" show is a 1945 self-portrait Diane made for Allan while he was in the Army. Though pregnant with Doon, who would be born later that year, in the picture she is still slender, and very beautiful, with dark eyes and a wistful, otherworldly air.

After the war, the Arbuses' career as commercial photographers took off, and soon they were working for top women's magazines and advertising agencies. Usually Allan shot the pictures while Diane came up with clever ideas and props. Diane also took care of Doon and their second daughter, Amy, born in 1954. (Doon, now 59, became a writer, worked on several magazine projects with her mother and later published two books with photographer Richard Avedon. Amy followed in her mother's footsteps and became a photographer.)

A photograph that Allan and Diane made for *Vogue* magazine of a father and son reading a newspaper was included in the Museum of Modern Art's popular "The Family of Man" show in 1955. But both of them felt frustrated by the limitations and stresses of fashion work. Diane wanted to be an artist, not just a stylist, while Allan dreamed of becoming an actor. Their growing discontent put strain on their marriage. So did the depressive episodes that Diane suffered, similar to the despair that had periodically paralyzed her mother. In

"My favorite thing," Arbus said, "is to go where I've never been." She visited "Queen of Burlesque" Blaze Starr in her Baltimore home in 1964 to capture this image for *Esquire*.

© 1964 THE ESTATE OF DIANE ARBUS, LLC

1956 Diane quit the couple's business in order to make photographs on her own. Allan continued to work under the name Diane & Allan Arbus, while taking acting classes and beginning a career in the theater.

Although magazines such as *Life*, *Look* and the *Saturday Evening Post* had created a booming market for photography, there was little interest in pictures whose sole purpose was to be a work of art, rather than to document social realities or sell products. Nevertheless, Robert Frank, William Klein and other refugees from the fashion world were pursuing their own vision of what photography could be, and a favorite approach was street photography, which discovered unexpected beauty and meaning in everyday people and places.

Several of Diane Arbus' early photographs in the current exhibition show her trying out her own version of street photography. But she had not yet found her subject. A turning point came when she took a class with the Viennese-born photographer Lisette Model at New York City's New School.

"She came to me and said, 'I can't photograph,'" Model later told Doon Arbus. "And I said, 'Why not?' And she said, 'Because what I want to photograph, I can't photograph.'" Model told Diane to go home and figure out what it was she really wanted to take pictures of. "And the next session she came to me and she said, 'I want to photograph what is evil.' And that was it," Model said.

"I think what she meant was not that it was evil, but that it was forbidden, that it had always been too dangerous, too frightening, or too ugly for anyone else to look on," Doon wrote in a reminiscence published shortly after her mother's death. "She was determined to reveal what others had been taught to turn their backs on."

Fascinated by risk-taking, Diane had long embraced the New York City art world's life-on-the-edge attitudes about money, social status and sexual freedom. Now she pursued the same kind of thrill in her photographs. "I always thought of photography as a naughty thing to do—that was one of my favorite things about it, and when I first did it, I felt very perverse," she later recalled. Model had often taken photographs of the seamier parts of the city, including Coney Island and Hubert's Museum, a sideshow in Times Square. Arbus went even further, exploring wax museums, dance halls and flophouses. "My favorite thing," Arbus is often quoted as saying, "is to go where I've never been."

We get a glimpse of her omnivorous sensibility in the displays of personal materials in the exhibition. There are well-thumbed art books (on Delacroix, Picasso, Berenice Abbott, El Greco) and texts both weighty (philosophical essays by Schopenhauer) and hip (Allen Ginsberg's epic poem *Howl*) alongside lists of ideas for projects ("seance, gypsies, tattoo, opera opening backstage"), collections of newspaper clippings ("Woman Tortured by Agonizing ITCH") and memen-

Three frames from a 1962 Arbus contact sheet of a boy with a toy hand grenade in New York City's Central Park reveal the power of selection. The top image is among her best known.

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tos of odd characters (the 942-pound "Human Blimp"). A recreation of one of her bulletin boards combines her own photographs (of a three-eyed circus freak and his wife, of a pretty girl and her mother) with postcards, snapshots, tabloid photos (an unwrapped mummy, a snarling J. Edgar Hoover) and a panel torn from an "Orphan Annie" comic warning, "The best things carried to excess are wrong."

In 1959 the Arbuses separated, and Diane moved into a small carriage house in Greenwich Village with their two daughters. Her new situation and her determination to be independent created pressure on her to bring in more income. Luckily, new opportunities were opening up. Some magazines were starting to publish a more personal, novelistic brand of journalism that needed a new, consciously artful kind of photography to complement it. In the fall of 1959, Diane obtained her first magazine assignment, a photo essay about New York City for *Esquire* that included portraits of a Skid Row eccentric, a sideshow performer known as the Jungle Creep, a young socialite and an anonymous corpse.

The pictures, however, did not have the distinctive sharp-focus look we generally associate with Arbus. In the 1950s and early '60s, she was using a 35-millimeter camera and natural lighting, and her work from that period showed the influence of Model, Robert Frank and other practitioners of street photography. Like them, she favored blurred surfaces and grainy textures, a long way from the tidy look of mainstream commercial photographs.

Then, sometime around 1962 she switched to a 2 1/4 format camera, which allowed her to create sharper images with brilliant detail. Describing this shift years later, she recalled that she had grown tired of grainy textures and wanted "to see the difference between flesh and material, the densities of different kinds of things: air and water and shiny." She added, "I began to get terribly hyped on clarity."

Nor was this shift merely a matter of camera size or lighting choices (she later added a strobe flash). More and more, Arbus made her intense relationship with the people she photographed the subject of her work—her curiosity about the details of their lives, their willingness to share their secrets and the thrilling discomfort she felt during these encounters. "She could hypnotize people, I swear," fellow photographer Joel Meyerowitz is quoted as saying in Patricia Bosworth's 1984 unauthorized biography of Arbus. "She would start talking to them and they would

"For me the subject of the picture is always more important than the picture. And more complicated," wrote Arbus, who often stayed in touch with her subjects for years. She first photographed Russian actor Andrew Ratoucheff (above, left, with friends in a New York City apartment, 1963) for *Esquire* in 1960. After picturing triplets in their New Jersey bedroom in 1963 (below), she met up with them at a triplets convention.

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be as fascinated with her as she was with them." This sense of mutuality is one of the most striking and original things about Arbus' photographs, giving them a lucidity and focus that are as much psychological as photographic.

A reader of Freud, Nietzsche and James Frazer's treatise on religion and mythology, *The Golden Bough*, Arbus saw the circus performers, eccentrics, midgets and transvestites she photographed both as fascinating real-life personages and as mythic figures. Through them she found her way to still more people and places, far from her own background. "I have learned to get past the door, from the outside to the inside," she wrote in a 1965 fellowship application. "One milieu leads to another. I want to be able to follow."

Her intelligence and elfin beauty proved valuable assets. And her excited appreciation of whoever struck her as extraordinary allowed her to gain entree to a female impersonator's boudoir, a dwarf's hotel room and countless other places that would have been closed to a less persistent, less appealing photographer. Once she obtained permission to take pictures, she might spend hours, even days shooting her subjects again and again and again.

Her subjects often became collaborators in the process of creation, sometimes over many years. For example, the Mexican dwarf she photographed in a hotel room in 1960 was still appearing in her photographs ten years later. And she first photographed Eddie Carmel, whom she called the Jewish giant, with his parents in 1960, ten years before she at last captured the portrait she had been seeking.

When Arbus went to San Francisco in 1967, photographer Edmund Shea introduced her to some "hippie chicks" who were working as topless dancers. He was not surprised that Arbus was able to convince them to pose for her. "Some people like to think of her as cynical. That's a total misconception," he says. "She was very emotionally open. She was very intense and direct, and people related to that." Arbus herself had mixed feelings about her ability to draw out her subjects. "Kind of two-faced" is how she once described herself: "I hear myself saying, 'How terrific.' . . . I don't mean I wish I looked like that. I don't mean I wish my children looked like that. I don't mean in my private life I want to kiss you. But I mean that's amazingly, undeniably something."

For several years Arbus' distinctive photographs proved popular with magazine editors. Following that first *Esquire* photo essay, she published more than 250 pictures in *Harper's Bazaar*, the *Sunday Times Magazine* of London and more than a dozen other magazines, and generated hundreds of additional pictures that were assigned but went unpublished. She also did a small number of private commissions, one of which forms the basis of a smaller Arbus exhibition that is also traveling the country this year and next. Titled "Diane Arbus: Family Albums," the show originated at the Mount Holyoke College Art Museum in Massachusetts and presents some of Arbus' magazine portraits of celebrities along with the complete contact sheets from a newly discovered photo session with a Manhattan family. The show's run includes stops in Maine, Oregon and Kansas.

Although Arbus regarded much of her photography-for-hire as mere pay-the-bills work, she often convinced magazine editors to help fund and obtain access for her artistic projects. Some of her most personal, best-known photographs—the 1970 portrait of the king and queen of a senior citizen's dance, for example—first appeared in large-circulation magazines. At the same time, the fine-art world began to recognize that Arbus' pictures were more than clever magazine journalism. In 1967, 32 of her photographs were chosen by MOMA for its "New Documents" ex-

Arbus liked to include symbols of her subjects' identities in her pictures. "Make sure children have trophies," she noted before recording 1963's Junior Interstate Ballroom Dance champions.

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hibition. The show also included work by two other important young photographers, Lee Friedlander and Garry Winogrand, but Arbus drew most of the attention. *New York* magazine called her work "brutal, daring and revealing" and *Newsweek* credited her with "the sharp crystal-clear generous vision of a poet." But *New York Times* critic Jacob Deschin wrote that her work "sometimes . . . borders close to poor taste," and other viewers found her pictures infuriating.

"I remember going to 'New Documents' when I was in college and seeing a man spit at her work," says SFMOMA's Phillips. "People hadn't seen an unambiguous picture of a man in curlers with long fingernails smoking a cigarette, and at the time it seemed confrontational. Now, at this distance in time, it seems elegiac and empathetic rather than threatening." Arbus found the attention hard to cope with. "The show was splendid but too many calls and letters and people thinking I am an expert or incredibly lovable," she wrote to a friend. "I need to be forlorn and anonymous in order to be truly happy." She told an interviewer from *Newsweek*, "I always thought I'd wait until I'm ninety to have a show . . . I wanted to wait until I had it all done."

Perversely, her growing fame coincided with a drop in assignments, in part because of changing fashion, in part because celebrities may have been wary about being photographed by a woman who was becoming renowned (in the words of one reviewer) as "the wizard of odds." To complicate matters further, Allan, to whom she remained close, moved to California in 1969 to pursue a full-time acting career. He eventually landed work in dozens of movies and, beginning in 1973, a long-running role on the popular TV series "M*A*S*H" as psychiatrist Dr. Sidney Freedman.

In hopes of bringing in some income, Diane launched plans to sell a limited edition of ten of her photographs, encased in a clear plastic box that would double as a frame, for $1,000 per set. The project, however, was ahead of its time, and only four sets sold during her lifetime: one to artist Jasper Johns, the other three to close friends. "She was trying to package photography as an art form before it was really accepted as such," says Phillips. Recently, one of the sets commanded $380,000 at auction.

But if money eluded her, recognition did not. Museums included her work in shows and publishers petitioned, in vain, to come out with a book of her images. In 1971 she was chosen to represent the United States at the 1972 Venice Biennale—

"There's a kind of power thing about the camera," Arbus wrote. "I mean everyone knows you've got some edge. . . . some slight magic which does something to them. It fixes them in a way." Above, clockwise from top left: Baby, 1968; blonde girl, 1967; veiled woman, 1968; man in curlers, 1966. Below: Arbus' famed 1970 portrait of Eddie Carmel, the "Jewish giant," with his parents.

ALL: THE ESTATE OF DIANE ARBUS, LLC. TOP, CLOCKWISE: © 1972 (3); © 1971; BOTTOM: © 1971

the first American photographer ever to be so honored at this prestigious art event. But she appears to have regarded such evidence of success as a distraction from her desire to keep adding to her photographic catalog—she called it her butterfly collection—of odd and intriguing people. A 1971 fellowship proposal (which was not accepted) described a desire to photograph "The Difference. Those of birth, accident, choice, belief, predilection, inertia." The challenge, she wrote, was "not to ignore them, not to lump them all together, but to watch them, to take notice, to pay attention."

One project that particularly engaged her was a series of photographs begun in 1969 of residents at state institutions for the severely retarded. Seeking a new look, she struggled to use natural light, in combination with strobe flash or by itself, "trying to make my sharp pictures blurred but not too much so," she wrote to her ex-husband that August. By the end of the year she was getting results that excited her. "I took the most terrific pictures," she reported in another letter to Allan, calling them "lyric and tender and pretty." These images marked a new direction, with their soft lighting and more casual composition—"like snapshots but better," Diane wrote. Never shown during her lifetime, they stand out as among her most moving, most powerful photographs.

"That is what I love: the differentness, the uniqueness of all things and the importance of life," Arbus wrote in high school. *Untitled (7) 1970-71* is from her series on the severely retarded.

But neither the recognition she was getting nor the work itself could forestall the periods of depression, likely exacerbated by several bouts with hepatitis, that plagued her. In 1968 she described her dark moods to a friend as "chemical, I'm convinced. Energy, some special kind of energy, just leaks out and I am left lacking the confidence even to cross the street." In the summer of 1971 she was again overwhelmed by "the blues." This time they proved fatal. On July 26, she took a large quantity of barbiturates and slit her wrists. A friend discovered her body in the bathtub of her West Village apartment two days later.

Arbus' death and the 1972 show that followed it made her famous in a way she had never been while she was alive. But some critics found in her suicide evidence that her pictures reflected pathology more than art. Indeed, the drama of her life has sometimes threatened to eclipse the reputation of her work. Yet however much her art and life may have become conflated, the impact of Arbus' photographs and their ability to meld the mythic with the intensely personal is stronger than ever.

By giving the public a chance to encounter an unprecedented number of her pictures, the "Revelations" exhibition demonstrates that she was an artist of the first rank and a pioneer in breaking down the walls separating photography from painting and the rest of the so-called fine arts.

The show also asks whether the disquieting intimacy that is still sometimes viewed as a weakness isn't instead a source of artistic power in Arbus' pictures. In her catalog essay, Phillips notes the high value the art world of the 1960s put on work that was "assertive, even arrogant, and suspicious of content," especially content that smacked of emotion or storytelling. By that standard, Arbus' work could be easily dismissed as too personal, too neurotic. In the 21st century, however, with personal identity and narrative central issues for artists, Arbus has emerged as a daring innovator.

"I have never been moved by any other artist as I have been by Arbus," says the Metropolitan Museum's Rosenheim. "Her pictures have this power that is the exact correlation of the intimate relation she must have had with her subjects. They forever affect the way you look at the world." Whether Arbus is photographing a tattooed man, a drag queen or a wailing baby, the more we look at her pictures, the more we feel they are looking back at us.

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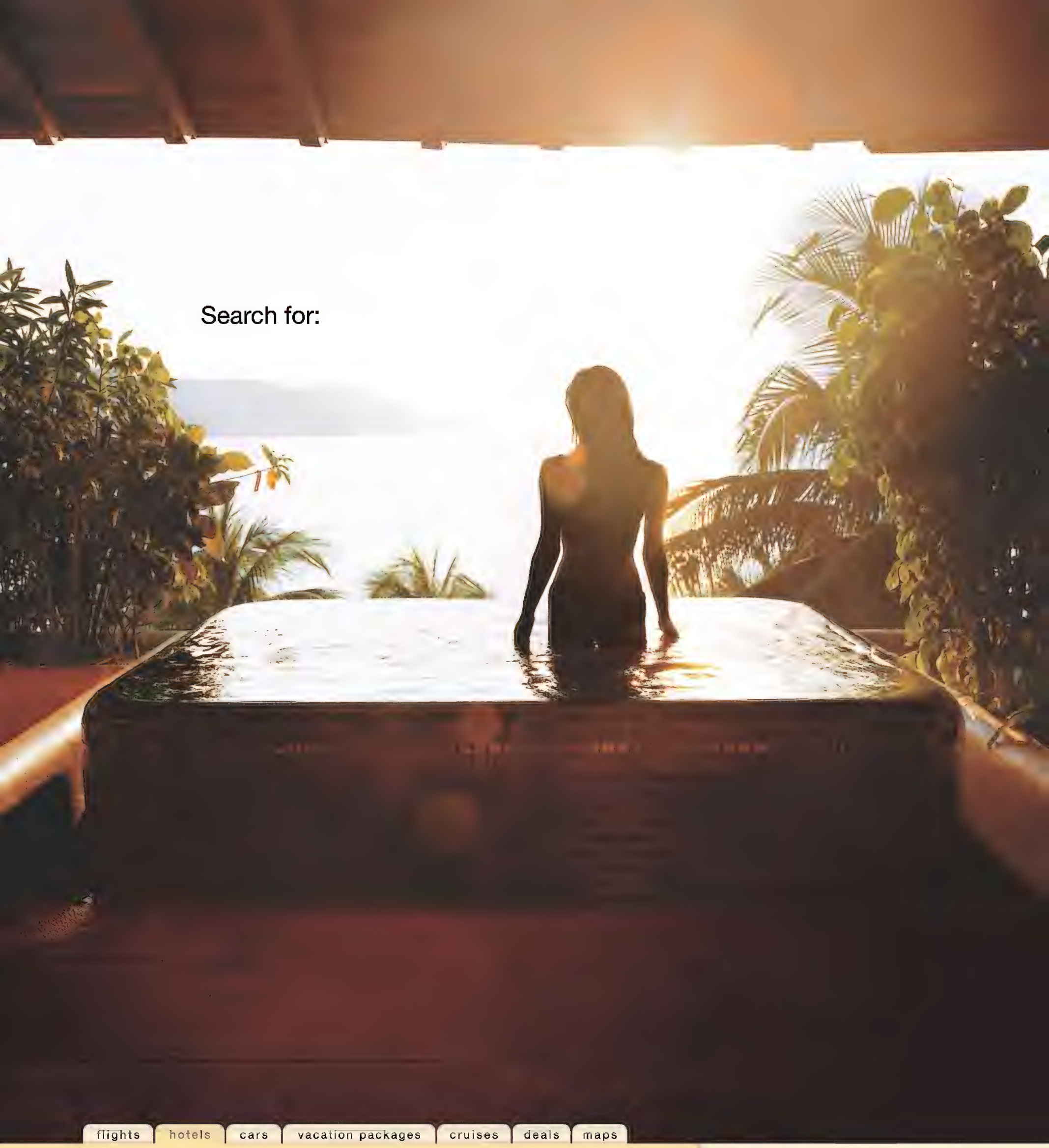

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Hit the Road

Trim a sail! Hit a pitch! Relive the past! Get a buzz! (Coffee, of course.) Here, eight beckoning variations on the great American summer vacation. Their secret ingredient? The unexpected

SCRATCHBOARD ILLUSTRATIONS BY MICHAEL McCURDY

WHERE TO GO THIS SUMMER? That's what we at SMITHSONIAN were wondering one frigid dark day last winter. Rugged? Fancy? Beach? Mountain? East? West? Yikes! Without even leaving the lower 48, we realized, a person with that good ol' American hankering to hit the road had, well, a lot of road to hit. (The Interstate System alone has 46,483 miles. Don't even ask about tallying secondary roads.) The art of the summer vacation, as it is variously practiced by that bright-feathered, funny-hatted creature *Homo touristicus americanus*, falls into one of two types: cherishing the familiar (say, the lakeside cabin of one's youth, complete with leaky canoe) or thrilling to the new (daring vistas! bungee jumping! theme-park food!). In the following eight stories we try, perhaps immodestly, to satisfy both styles, with a decided emphasis on the unexpected, whether a fresh view of a popular locale like San Francisco or a quirky exploration of a place that doesn't usually make the travel guides. (Are we correct in assuming you hadn't planned on visiting Dyersville, Iowa?) Really, though, isn't a journey all about experiencing a revelation or two? These excursions have something special going for them. They provide a refreshing insight into this familiar place we call home, allowing us to immerse ourselves in the nation's history or culture or art, or simply marvel at the sheer beauty of the sustaining American landscape.

MAP: ELIZABETH WOLF

Yellowstone: In the Beginning

In the 1870s, intrepid adventurers explored the magnificent wilderness that would become our first national park ~ BY TONY PERROTTET

THE MOST PRIZED DIVERSION in Yellowstone National Park these days is climbing a steep staircase up to the highest gable of Old Faithful Inn, the cathedral-like timber lodge in the Upper Geyser Basin that has been a landmark architectural treasure since it opened a century ago. Each dawn and dusk, two members of the public, weather permitting, are allowed to make the trip in the company of a staff member who raises and lowers the rooftop flags—a privilege some participants take very seriously. When I risked life and limb to engage in the ritual one evening last August, my companion was a historical reenactor from Pennsylvania, who was dressed for the occasion as a frontier scout, in full-length canvas coat, neck bandanna, leather boots and felt hat. He also happened to be carrying an antique bugle, and he now intended to sound a military salute.

"It's a cult thing," confided the duty officer, Drew Williams, 44, as he unlocked the door to the stairway that led to the roof; the stairs have been off-limits to the public since 1959, when an earthquake caused structural damage to the inn. "We get three million visitors a year to the park, and only four people a day get to come up here. It's kind of exclusive."

Exclusive, and for those not afraid of heights. The stairs are more a series of rickety rungs suspended in midair; the treads sway underfoot like trapeze ropes. I peered cautiously down: the lobby of America's most revered park hotel, completed in 1904, seemed as busy as an airport terminal. Throngs of new arrivals were staring up at the some 76-foot-high atrium—a thatch-work of gnarled tree branches evoking a primeval forest.

The inn's architect, Robert Reamer, wanted the lodge to look as if it had taken root and grown on the spot. ("I built it in keeping with the place where it stands," he said several years after the inn was completed. "To try to improve upon it would be an impertinence.") The rustic design indeed contrasted with the style of the only other massive hotel in the park at that time, a sprawling Queen Anne-style confection. We paused to step into the "Crow's Nest"—a precarious treehouse for grown-ups, where, in the early 1900s, a music ensemble would serenade guests attired in formal dress dancing below.

In the chill twilight air, I took in a bird's-eye view of the Upper Geyser Basin, where some 150 geysers are concentrated within a single square mile along the Firehole River. Steam hissed from fissures and vents in the pale earth below; mud eruptions burped; pools of pale water gleamed like glass beads. To the east, hundreds of visitors, small as ants, were seated on benches ranged in an arc around Old Faithful, the most famous geyser in the world. As Williams lowered and folded the four flags—one for each of Yellowstone's three states: Wyoming, Montana and Idaho, plus the Stars and Stripes—the reenactor

Within sight of the geyser (below) for which it was named, the Old Faithful Inn (its atrium soaring some 76 feet high, opposite) is a masterpiece of early 1900s Arts and Crafts architecture. A ten-year, $7.3 million restoration of the historic lodge was completed in 1988.

TONY PERROTTET, who specializes in travel writing, lives in New York City.

RAYMOND GEHMAN; P. 81 LESTER LEFKOWITZ / CORBIS

solemnly took up his bugle and played taps. As if on cue, the geyser began to spurt.

IN 1870, the Washburn Expedition—dignitaries led by the surveyor-general of Montana Territory, Gen. Henry Washburn—first beheld the dramatic geysers. Cornelius Hedges, a member of the group, reported "our great astonishment on entering this basin, to see at no great distance before us an immense body of sparkling water, projected suddenly and with terrific force into the air to the height of over one hundred feet. We had found a real geyser." As legend has it, Hedges later proposed to fellow expedition members sitting around a campfire that this remote volcanic plateau should be set aside as the world's first national park. The reality is less romantic, involving a tale of lobbying by railway interests and political wrangling, but on March 1, 1872, Congress did indeed pass a bill declaring some two million Rocky Mountain acres to be "set apart as a public park or pleasuring-ground for the benefit and enjoyment of the people."

By 1905, new roads allowed travelers to tour the park by stagecoach—a conveyance that turned even a short journey into a bone-jolting adventure.

Last August, from my aerie atop Old Faithful Inn, I contemplated the spectacle of Mother Nature up against a massive influx of tourists. It's safe to say that the way we use this "pleasuring-ground" at the beginning of the 21st century would astound the men who protected it 132 years ago.

Modern-day Yellowstone constitutes a virtual city-state, with its own weekly newspaper, a year-round staff of 380, a $27 million annual budget, army-size campgrounds and sprawling visitor complexes. Many of the park's attractions, surrounded by boardwalks and interpretive trails, are linked by a figure-eight-shaped highway, the Grand Loop. Summer traffic proceeds slowly around the loop, since any buffalo, bear or moose on the road provokes a mile-long jam. In the past decade, the reintroduction of some 30 wolves in the Lamar Valley, in the park's northeast, has created a new sightseeing ritual: at sunrise every day, hundreds of tourists gather with high-powered binoculars along the roads there, often directed by a ranger known as Rick the Wolf Man, who brandishes a radar tracking antenna.

It's a dizzying pageant: all that communal nature worship can leave one yearning for something a bit more . . . solitary.

My plan was to attempt to recapture the experience of visiting Yellowstone in the 1870s, when the number of annual tourists was closer to 300 than three million. The quest was not as hopeless as it sounds, since much of Yellowstone remains wild and empty. Of the park's two million acres, only 2 percent are developed, and of the hordes who make the pilgrimage here, some 99 percent never step off the main trails. To wander here, as solitary as the campers of the Gilded Age—before the advent of roads or hotels—one has only to venture into the backcountry. In fact, given the wolves and a thriving bear population, the more remote corners of the park may exist in a state closer to their original grandeur than they have in decades.

I had planned a four-day camping trip with the help of Jim Williams, 33, then the program manager of the Yellowstone Association Institute, the nonprofit organization that, since 1933, has supported the National Park Service's educational mission. Only two days after gazing down at the crowds from the gables of the Old Faithful Inn, I stood at a trailhead near Soda Butte Creek in the northeast section of the park, intending to trek 40 miles across a grassy plain to the forest-covered Absaroka Mountains in the distance.

"Yellowstone in the 1870s?" mused Lee Whittlesey, the park's historian, who was among the seven experts and outdoor enthusiasts who would accompany me. "Imagine an intense geography with no white settlement." We heaved packs onto our backs and stepped onto the trail. Less than 15 minutes later, as I was changing my socks after crossing an icy stream, a bull bison the size of an SUV loomed just yards above us. Thick, matted fur streamed down his flanks; an unkempt goatee curled at his chin. Snorting loudly, the old bachelor stomped his way down the hillside, took a drink of water, then sauntered across the creek. The buffalo had been so close I could have patted him on the back.

YELLOWSTONE, in 1872, was still a remote, mysterious region largely unmapped, although scarcely uninhabited: a Native American group (known as the Sheepeaters because they hunted the local bighorn) had survived its bitter winters for centuries and were still resident. As late as 1869, Eastern magazines refused to print stories about Yellowstone, for fear that travelers' claims of natural geysers, hot springs and steam vents amounted to little more than wild exaggerations. The hardy explorers of the Washburn Expedition, and the subsequent Hayden Survey of 1871, began to catalog some 250 active geysers and an estimated 10,000 hot springs, mud pots (a bubbling mixture of sulfuric acid, clay and water), hot pools and steam vents.

At first, the federal government's decision to protect this

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Then (in 1924) as now, black bears were a major tourist attraction. Today, following the reintroduction of 14 wolves in 1995 and with a flourishing bear population estimated at 900, Yellowstone's grandeur may be more authentic than it has been in decades.

isolated wilderness had little effect on Yellowstone itself. There was no precedent for managing such an enormous "park." The first superintendent, Nathaniel Langford, received no salary, had no budget or staff, and visited Yellowstone only twice in his five-year tenure.

The pioneering sightseers who did make their way here were an intriguing group—wealthy Easterners like conservationist George Bird Grinnell; socially prominent citizens of Montana; Army officers on hunting junkets; and nature-loving aristocrats from Europe—who often endured severe privations just to reach Yellowstone. From the East, the easiest approach was via the new transcontinental railroad, passing through Omaha, Nebraska, to the sleepy settlement of Corinne, Utah. From there, a stagecoach ran to the gold-rush town of Virginia City, Montana. That dusty, bone-shaking 430-mile journey lasted four grueling days and nights. "There was nothing to break the dull monotony," reported a 35-year-old Irish aristocrat, the Earl of Dunraven, in 1876. "Clouds of the salt dust . . . covered our clothes, and filled our eyes, ears, noses and mouths." (Several years earlier, a stagecoach carrying a 17-year-old English adventurer, Sidford Hamp, had been held up by two ruffians, who passed around a bottle of whiskey after robbing the passengers: "I took some [whiskey] just for the joke of it & because I was cold with standing out with my hands up," Hamp wrote his mother back home. "Fancy such a thing as highway robbers in England.") Arriving in Virginia City, weary travelers hired guides (frontiersmen with names like Texas Jack or Beaver Dick) and outfitted their expeditions in the style of African safaris, with cooks, attendants and mounds of equipment. Most entered the park from the north, traveling via Bozeman and Gardiner, Montana; a few took a more rugged route along the Madison River (a road now dominated by the motels and fast-food restaurants of West Yellowstone).

At the time, the only byways within the park itself were bridle paths and animal trails. In 1877, Thomas Sherman, son of the famous Civil War general, wrote from the northern edge of the park: "Here vehicles must be left behind, for there is no highway into Wonderland, and the visitor who dares to trespass on Dame Nature's secret fastnesses, must bear the fatigues of rough riding, and trust his baggage to the mercy of a pack animal." Most travelers, crossing over a nearly impassable stretch of fallen pine trees, headed straight to Upper Geyser Basin. Some overnighted at the only accommodation available, McCartney's Hotel, built in 1871 at Mammoth Hot Springs, near the park's northern entrance. Although the lodgings were promoted in local newspapers as an elegant spa, government surveyor Ferdinand Hayden found McCartney's "very primitive, consisting, in lieu of a bedstead, of 12 square feet of floor-room . . . the fare is simple, and remarkable for quantity rather than for quality or variety." For his part, the Earl of Dunraven called it the "last outpost of civilization," a distinction apparently earned in his eyes by the sale of whiskey.

But the hardships of the journey were soon forgotten. "Our first sight of the geysers, with columns of steam rising

from innumerable vents and the smell of the Inferno in the air from the numerous sulfur springs, made us simply wild with the eagerness of seeing all things at once. . . . " wrote 28-year-old Emma Cowan, a resident of Radersburg in the Montana Territory, in 1877. Visitors wandered among such wonders as the Castle and Giantess geysers and Minerva Terrace, a massive travertine formation. They poured soap into the mouths of geysers, to hasten eruptions (the detergent added a viscous film that decreased the surface tension of the water). They washed clothes in the hot pools, marveling as soiled shirts were sucked into the earth by down-draft currents, only to be spat up clean an hour later. Little thought was given to environmental damage: many visitors gleefully carved their names on rock walls, tossed rubbish into prismatic springs and chipped off delicate geological formations for souvenirs. Those of a more scientific bent timed geyser eruptions and recorded the temperatures of hot pools, then compared the findings with statistics on geysers in Iceland and New Zealand.

"Here the traveller passes from one unique scene to another, and his vision never wearies and is never sated," Hayden wrote in an 1876 essay describing his journey. Adventurers descended Yellowstone Canyon's rock walls with ropes to gape at the thundering Upper and Lower falls. They scaled mountains: 10,243-foot Mount Washburn afforded the most expansive views, while Electric Peak offered the most bizarre scientific experience: ". . . every hair of your head will stand up and hum like an enthusiastic congregation," conservationist John Muir wrote after visiting the park in 1885.

Sportsmen hunted deer, elk, moose, bear, buffalo and antelope. Mountain lions and wolves howled throughout the night, reported Calvin Clawson, a member of the first tourist party to visit the park in 1871. It was, he said, "a most heartrending war song." Some visitors became positively trigger happy. "Andy's rifle was always ready, and he blazed away at everything," reported an anonymous participant in hunter Archibald Geikie's party in 1879. Even self-professed nature-lovers were not above shooting a nesting eagle to adorn their hats with feathers. At night, travelers gathered around campfires, singing, swapping stories, even staging theatrical shows beneath the stars.

Yet many travelers described Yellowstone's landscape as nothing less than "infernal." As well it could be. In 1870, Truman Everts, a 54-year-old Montana Territory official, originally from Vermont, found himself separated from the main Washburn Expedition near Yellowstone Lake. Lost for 37 days, he was stalked by a mountain lion, trapped in snowstorms, awakened by forest fires and scalded by hot springs. "I lost all sense of time," he wrote after the ordeal. "Days and nights came and went, and were numbered only by the growing consciousness that I was gradually starving." He survived by gnawing on the roots of thistles, making fires with the sun and lenses of the opera glasses he likely used as binoculars and, he claimed, following instructions from an apparition he called "a ghostly counselor." He was rescued—emaciated, frostbitten and delirious—by a search party dispatched from the vicinity of Helena.

Chief Joseph of the Nez Percé, forced to abandon ancestral homelands, led his people across the park in 1877 in a doomed attempt to reach Canada.

THE MOST SHAMEFUL chapter in Yellowstone's early history occurred in the summer of 1877, after the federal government had ordered the Nez Percé tribe to leave their ancestral homelands in Oregon, Washington and Idaho for a small reservation along the Clearwater River in Idaho. Initially, the Nez Percé reluctantly agreed, but after a renegade band of their warriors massacred a group of white settlers, the tribe feared reprisal. Some 600 to 800 men, women and children set off on what would turn into a 16-week flight of 1,100 miles across the Wyoming and Montana territories, with the U.S. cavalry in hot pursuit. For two weeks in late August and early September, the Native American "hostiles" raced through Yellowstone, one step ahead of Army scouts.

At dawn on the 24th of August, Yellowstone visitor Emma Cowan awoke to discover more than 20 Nez Percé warriors surrounding her campsite, about six miles north of Old Faithful. After handing over their horses and supplies to the fugitives, Emma, her husband, George, and seven others thought they would be set free. Then a splinter group of Nez Percé renegades attacked the party. Several of the campers escaped into the underbrush, but George Cowan was shot. "A red stream trickled down his face from beneath his hat," Emma later recalled. "The warm sunshine, the smell of blood, the horror of it all . . . my sister's screams, a sick faint feeling, and all was blank." Emma and her brother and sister were taken on horseback to the main body of the Nez Percé group, where leaders ordered them to be released unharmed. For four days, George Cowan, who had been left for dead, dragged himself across brutal terrain until he was found by an

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Army patrol. In later years, fully recovered after a surgeon removed the bullet, he wore it as a watch fob. As for Chief Joseph, he and his followers surrendered to U.S. Army forces within 40 miles of the Canadian border on October 5. He would die in 1904 on a reservation in Washington State.

"IN THE POPULAR IMAGINATION, human history has not been associated with Yellowstone," Rosemary Sucec, one of my hiking companions, said on our second day of trekking. "The park has always been perceived as 'Nature's shrine.'" We were deep in a serene pine forest. Sucec, the first cultural anthropologist appointed to the park by the National Park Service, paused to pick up a flake of obsidian from the trail—a shard of sharp black glass that might have once been part of an Indian arrowhead—and pulled out her GPS receiver to record its location. Then she replaced the obsidian and continued on the trail. "In fact, the park was actually one of the great rendezvous points for Native Americans," she went on. In addition to the Sheepeaters, Yellowstone was a hunting ground for numerous tribes, including Crows from the east, Bannocks from the west, Blackfeet from the north and Shoshone from the south; their presence was largely expunged from guidebooks in the 1880s. "Now that we're finding out more about the park's history," Sucec added, "it could become more of a shrine."

In August 1877, Nez Percé renegades captured a party of nine white tourists (photographed after their release) who had camped in Yellowstone.

NATIONAL ANTHROPOLOGICAL ARCHIVES / SMITHSONIAN INSTITUTION

Tim Hudson, 48, our wiry mountain guide (and a poet with a master's degree in American studies), nodded. "Native Americans were forcibly removed to create our idea of 'wilderness,'" he said. The image of the park as an uninhabited American Eden was taken up enthusiastically throughout the 19th century. In the late 1800s, somebody started spreading the idea that Native Americans actually avoided the park because they were afraid of its geysers and steaming vents.

Historians still heatedly debate the route through eastern Yellowstone that Chief Joseph and the Nez Percé, along with elderly family members, children and 2,000 horses, took to elude their Army pursuers. Almost none of the park backcountry has ever been investigated by archaeologists; it is too wild and funding is in too short supply. "It was a feat few white people could have accomplished without axe or implements of some sort to cut the way," Emma Cowan wrote. When overloaded pack horses became wedged between trees, "an old squaw would pound them on the head until they backed out."

AS WE CAMPED beneath the stars, our conversation often turned to the future of the park. "On the surface, Yellowstone is doing very well—perhaps better than it was ten years ago," said Hudson. He mentioned the wolves and bears. "But beneath the surface, there's a lot of danger. There's a realization that our parks can't exist in isolation." For example: one grizzly bear dietary staple, whitebark pine nuts, is at risk from blister rust, a plant disease spreading into the region. In addition, an introduced species of trout is crowding out indigenous species; bears, bison and wolves are wandering beyond the protection of park boundaries. What's more, the land surrounding Yellowstone is being subdivided into housing developments; the process disrupts the migration routes of pronghorns and affects the spring habitat of grizzlies. Although the most high-profile debate involves the phasing out of snowmobiles, ecologists are trying to make the public aware that Yellowstone must be viewed as part of a larger environment.

"In a sense, some people romanticize the park," said Jim Williams, former program manager at the Yellowstone Association Institute. "It's sacred turf, with the Roosevelt Arch as the holy gates. Looking at the ecology as a whole, there is no practical distinction between park and nonpark. Yellowstone is being very well managed—nothing bad is going to happen within the park. It's what will happen *outside* the park that will damage it."

ON OUR THIRD day out, the forest gave way to alpine meadows—soft grass, mountain streams and wildflowers. The trail wound through the Hoodoo Basin, a valley filled with wind-hewn pillars of stone. Finally, we stood at the park's eastern edge, marked by lonely cairns piled on icy ridges. In every direction, savage mountains receded to the horizon. Ahead lay the hardest stretch, a trail that would find us sliding down scree and clambering up cliffs, picking our way across seas of deadwood as we crossed the same river 24 times, an experience made all the more vivid by my conviction that we were irretrievably lost. When I finally hobbled back to the Old Faithful Inn two days later, I could guess why an exasperated U.S. Army scout in 1877 had designated Yellowstone "the most outdoors country on earth."

Perhaps the Yellowstone I had traversed was not exactly as it was in the 1870s—there have been too many changes. But that night back at the inn, soaking my aching limbs in a claw-foot tub, I had to admit—gratefully, now that the ordeal was over—that the park remained seriously wild.

Red Bank Redux

A New Jersey river town has transformed itself into one of the hippest enclaves on the East Coast ~ BY RICHARD CONNIFF

THE MAN BEHIND THE COUNTER at Jack's Music Shoppe is large, mild mannered and heavily tattooed, with a hank of beard sprouting from under his lower lip. His name is Tim Cronin, and at the moment he is pawing through the dustbin of odd musical facts in his head, trying to explain the genius of an unjustly neglected performer, one Vic Chesnutt, to a customer. "If William Faulkner was a singer-songwriter," he begins, "he'd be like Vic." The customer's eyebrows rise with curiosity, or perhaps alarm. "He fell out of a window," Cronin adds, "and got crippled, and he sings from a wheelchair." The customer grunts dubiously, "No!" Cronin catches himself. "He got crippled in a car accident. It was Robert Wyatt who fell out of the window. He was in Soft Machine in the 1960s."

The place is Red Bank, New Jersey, a little town on the Navesink River, an hour or so southwest of Manhattan. Arcane musical lore matters here, and quirky characters abound. Red Bank is in many ways an ordinary-looking New Jersey town, a mix of undistinguished high-rise apartment buildings and aluminum-clad Victorian houses built cheek by jowl. But it has also lately transformed itself into one of the hippest destinations on the East Coast, thanks largely to an odd mix of music, movies and Wall Street brokerage types. Multiple piercings and mink coats are both commonplace on Broad Street, although not usually on the same person.

With a population under 12,000, Red Bank supports three music stores, a recording studio, a couple of nightclubs, 15 art galleries, 64 restaurants and the 1,400-seat Count Basie Theatre (named for the jazz great, born in Red Bank a century ago this August). Sometime next year, the town will acquire its own professional drama company, the Two River Theatre, to be housed in a $15 million, state-of-the-art building now under construction. Red Bank also sponsors open-air jazz on Thursday nights in summer, hires street musicians for weekends and attracts 150,000 visitors annually to its high-profile, three-day riverfront jazz and blues festival (coming up June 4 through 6).

Local landmarks (including the Count Basie Theatre, below, named after the jazz great born here) attract visitors, who also flock to the waterfront jazz festival (opposite, above) and a range of eateries serving everything from gourmet fare to soft-serve cones (opposite).

One local booster, part of the stockbroker set, suggests that Red Bank is on its way to becoming another Newport; he likens the Navesink, with its winter iceboating and summer sailboat regattas, to a Norwegian fiord.

But, hey, wake up, this is New Jersey. Behind the counter at one music store, a harried clerk responds to an annoying customer's request by typing, "Go away, leave me alone, DIE, DIE, DIE, DIE!" in the "title search" line on his computer screen. Then he looks up and politely says, "I'm sorry, sir, we don't have that in stock today."

If Red Bank does not quite seem destined to rival Newport, some residents will tell you that it has already morphed into a much finer thing: the international headquarters for Jersey Attitude, which is one of the great cultural forces in contemporary Western civilization. Bruce Springsteen lives a mile or two to one side of town, Jon Bon Jovi a mile or two to the other. Both routinely show up in Red Bank. So does movie director Kevin Smith, who turned his experiences on the job at the Quick Stop convenience store out on Route 36 into the 1994 film *Clerks*, now a cult classic. (People make pilgrimages from as far as Australia to buy Gatorade from Smith's old employers.)

Smith now owns a comic-book shop, Jay and Silent Bob's Secret Stash, on Broad Street. He also maintains an office in Red Bank, from which he has since gone on

RICHARD CONNIFF, who grew up in New Jersey, now lives in Connecticut.

TOM WOLFF

to make such hits as *Mallrats*, *Jay and Silent Bob Strike Back* and the current, if widely panned, *Jersey Girl,* starring Ben Affleck and George Carlin. *Chasing Amy* was filmed largely in an apartment above Jack's Music Shoppe. Smith's 1999 comedy, *Dogma,* reached its apocalyptic final scene on the streets of a fictionalized Red Bank, with God descending to earth in the person of Alanis Morissette. "Red Bank had a real nice feel," Smith intones. "Not incredibly suburban but not too metropolitan either, almost like Norman Rockwell."

But, God? Why Red Bank? Locals admit that they called it "Dead Bank" not too long ago, meaning "dead" in the unhip sense, as in vacant and boarded up, just another downtown gutted by competition from malls and big-box stores. Even McDonald's gave up and moved away. But in 1989 a local lawyer, Ed McKenna, heard a neighbor lie about his address because he was embarrassed to admit to living in Red Bank. "I'm going to change that," McKenna vowed.

The son of a local dentist, McKenna went on to become mayor. He quickly made a name for getting things done, reversing a one-way street to attract a key business to a new location, condemning a proposed condo site in order to open up the waterfront and create a public park there, and designating a district where businesses could tax themselves to fund street-front upgrades. McKenna's government limited the incursion of ubiquitous retail chains like Red Lobster and the Gap, preferring independently owned shops and restaurants—"something that's different," says the mayor.

The resulting mix has proved so popular that, after little more than a decade, the town has the opposite of its old problem: now Red Bank is trying to keep at least some rents low enough to preserve its quirky, small-town character. A storefront on Broad Street still proclaims "Prown's has everything," but the general store that once operated there recently closed to make way for a bank. "You can't buy a light bulb in town," says Tim Cronin, behind the counter at Jack's, "but you can buy a $1,000 tiara." On the other hand, you can also purchase a Sigmund Freud Action Doll ("Tell me about your mother," it commands). You can catch a Ray Charles concert, or a Beatles tribute band called The Fab Faux. You can savor crackling calamari salad with miso lime dressing at a trendy restaurant and enjoy the spectacle of two suburban women at the next table, reformed big hair victims, talking too loud about the attraction of giant strawberries dipped in chocolate.

Red Bank is, in other words, unlikely to become boring anytime soon. "You get the feeling that it's less of a town now and more of an open-air mall," a businessman admits. "But there's a nice feel to it. When you're out on the street at night, there are other people out too.

"You feel," he adds, "like you've come to some place." And the place you have come to is distinctly New Jersey.

CJ PHOTOGRAPHY; TOM WOLFF (2)

Café Society

San Francisco's quirky neighborhood hangouts offer a window into the life of the city ~ BY MARK HERTSGAARD

MOST AMERICAN CITIES don't really have cafés; it's Starbucks or nothing—an odd shortcoming in a country that regards itself as the land of choice and plenty. But San Francisco offers up a glorious exception: the city holds too many cafés to count, frequented by all kinds of people—young and old, straight and gay, white, Asian and Latino, students, tourists, hipsters, lawyers, techies, activists, surfers and more. Each café offers its own glimpse of the quirky diversity and bohemian sophistication that is San Francisco; the city would be almost unimaginable without them. "There have been cafés of one kind or another here for nearly as long as the city has existed," says Michael Farrah, a fifth-generation native and senior adviser to Mayor Gavin Newsome. "Each neighborhood has its own character, and the city's cafés reflect that." (Serendipitously, a newly revised guide, *The Cafes of San Francisco*, TCB-Cafe publishing, offers a handy one-stop survey of their charms.)

Foreign visitors invariably observe that San Francisco possesses the most European atmosphere of any major American city. Its cafés are one reason why; a café, after all, is not merely a place to eat and drink but a community gathering spot. As in Europe, the ubiquity of cafés here reflects an underlying culture in which money is not necessarily the supreme arbiter of human affairs, where life is about more than one's job and where simply hanging out, alone or with friends, is a perfectly respectable thing to do. San Francisco's climate, which al-

Ranging from legendary Caffe Trieste (below, and opposite, top), center of the Beat scene during the 1950s, to oceanside Java Beach (opposite, bottom), scores of cafés confer a European, urban-village atmosphere on the city of San Francisco.

MARK HERTSGAARD, who is a freelance writer, lives in San Francisco and rural California.

ALL: ED KASHI

lows for outdoor seating most of the year, doesn't hurt either.

It is no coincidence, therefore, that Europeans founded the city's most famous café. An Italian immigrant, Gianni Giotta, hoped to re-create the welcoming cafés of his native city when he opened Caffe Trieste in 1956. Located in North Beach, then as now a largely Italian neighborhood, the Trieste is most famously associated with Jack Kerouac and the Beat generation. For the '50s bohemian crowd, Caffe Trieste amounted to an inexpensive escape from cramped, often chilly apartments, a sort of communal living room where poets such as Allen Ginsberg, Lawrence Ferlinghetti and their cohorts could read, write, exchange ideas and implicitly reject mainstream culture. But what ensured the café's economic survival was the steady stream of local Italians, professionals and laborers alike, who stopped in for a morning espresso or an after-work drink.

Stepping inside Caffe Trieste today, one finds it virtually unchanged. Indeed, Giotta himself, who is 84, stops by each day to check on things. The décor and menu are as unpretentious as the prices are reasonable; creating buzz and maximizing profits are clearly not guiding principles here. Says Sonia Pantaleo, the founder's daughter, "We want people to know we're not a corporation. We are a family who cares about two things: music and coffee." Nowadays, the clientele includes more tourists, but locals, some speaking Italian, still predominate. On one wall hang dozens of framed black-and-white photographs, mainly depicting community singalongs held here each Saturday afternoon—although one image features a young Francis Ford Coppola, who wrote part of the screenplay for *The Godfather* here at a back-corner table, against the backdrop of a mural depicting fishermen mending their nets. Today, at that same table, a studious young man scribbles in a notebook while another customer, balding and 30-something, is engrossed in a hardback novel. It's 2:45 on a Wednesday afternoon and it looks like no one's going anywhere soon.

Another half-dozen equally enchanting cafés can be found in the adjacent three blocks; North Beach is by no means unusual in this respect. Across town, a five-block residential district stretching from Haight Street to Cole Valley contains five of them, including Café Cole, a small, homey establishment with a couple of outdoor tables and a sign in the window advertising wheat grass juice, a viscous green liquid served in tiny plastic cups. ("No, we do not have this drink in France," said a visiting Frenchman, trying it for the first time and involuntarily puckering his face.) In the Castro District, the center of the gay scene, gays and straights alike gather at Café Flore for inexpensive comfort food and late-night desserts. One of the most stunning vistas in the city lies outside the windows of the Warming Hut, a café-gift shop run by the Golden Gate National Parks Conservancy on Crissy Field, an old airstrip near the foot of the Golden Gate Bridge. The panorama stretches from the bridge, past Angel Island and Alcatraz, to the Berkeley hills, on to Treasure Island, the Bay Bridge and, on a clear day, the Transamerica Pyramid downtown.

San Francisco's cafés are by no means all in upscale, predominantly white parts of town. In the heavily Latino Mission District, the ambience at La Bohème epitomizes the racially mixed, lifestyle-tolerant, politically progressive, laid-back atmosphere that makes San Francisco a paradise to some and a den of iniquity to others. On a typical weekday evening, small clusters of middle-aged Latino men sit on rickety folding chairs on the sidewalk out front. Inside, at a large, round table, three women gather, each with a 7- or 8-year-old daughter in tow. Their conversation switches back and forth between English and Spanish. At the next table, a chess game is under way; an aging Anglo with a knit skullcap and a sweater patterned with marijuana leaves is being dispatched by his buddy, while a mustachioed retiree waits to take on the winner. Although one wall of the café is covered with movie posters and record covers for recordings of La Bohème, it's Coltrane who is on the jukebox, and a sign out front announces "Live Jazz on Saturdays, 7:30 to 10 p.m., It's Free!" Inside, two computers offer DSL connections; a bulletin board is papered over in fliers emblazoned with characteristic Bay Area messages: "Wage Peace," "How Strikes Can Win," and "Visit Our Low Carb Store." At a table in the front window, a redheaded fellow in a gray suit and tie stares intently into his laptop screen, a stack of legal briefs at his elbow. Then a young Latino greets him warmly; the two pull out matching workbooks and begin to exchange Spanish-English lessons.

A diverse clientele has long been a hallmark of the neighborhood café. Which makes sense, says journalist Mark Schapiro, who has written about café culture and its European origins. "In 17th-century Britain," says Schapiro, "the first coffeehouses were crucial to the popularization of modern ideas like equality, individual liberty and freedom of opinion. These were the first public places where differ-

ent economic classes could come together as equals and debate politics, because a cup of coffee cost only a penny. The coffeehouses were actually called penny universities."

ONE CAN TAKE THE N-TRAIN out to the ocean; at the very last stop of the streetcar line lies the Java Beach café. The waves of the Pacific crash on the other side of Highway 1 as Recreation and Parks Department workers, on break from their duties in Golden Gate Park, stop in for a midmorning cappuccino. The line at the counter stretches out the door, and one customer in particular makes it plain you're not in Kansas anymore. Heavyset, with shoulder-length gray hair and a beard down to his chest, this guy sports a black biker jacket over a white cotton kilt and black knee-highs. No one gives him a second look as he pays for his espresso and joins a pal who is hand-rolling a cigarette at an outside table.

But don't make the common mistake of dismissing this city as a mere enclave of aging hippies and decadent dreamers. San Francisco is the third wealthiest city in California (itself the sixth biggest economy in the world), a powerhouse of banking, tourism, information technology and the new economy. The rise and fall of the dot-com revolution can be viewed through the prism of Caffe Centro, an unassuming little eatery facing onto South Park, a block-long expanse of greenery south of Market Street; this neighborhood was the revolution's unlikely epicenter. "Centro was our commissary," recalls Katrina Heron, who, from 1997 to 2001, served as the editor in chief of *Wired* magazine, the monthly bible of the dot-com world. "It's where people made deals, found compatriots, even set up shop if they didn't have their own office space. Centro was kind of a club where we all knew each other, a crowd dressed in grunge chic who believed we were part of something that was going to change the world." But beginning in 1995, the Web went commercial and the local scene began to change. "The dot-comers descended, speaking the language of venture capitalists," Heron recalls, "and South Park, which had been a crime-ridden neighborhood with kind of a TriBeCa feel, suddenly saw lots of new construction of fancy lofts. And there were people dressed in black everywhere: black Armani T-shirts, black jeans."

When the bubble burst, many of the local cafés and restaurants that had sprung up to service it went under, but not Centro. "I think Centro lasted because it is one of those true neighborhood places that local people felt part of," adds Heron. "It never had any pretensions."

The cafés that thrive—like Centro—are rooted in the community, integrated organically into the rhythms of their neighborhoods. Visitors who want to seek them out will find that the real San Francisco resides here.

At convivial La Bohème, in the diverse and lively Mission District, jazz on Saturday nights draws music lovers from across the city.

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Fielder's Choice

In rural Iowa, baseball fans and film buffs alike flock to a divided field of dreams ~ BY BETH PY-LIEBERMAN

FOR 15 YEARS NOW, Dyersville, Iowa, a small farm town (pop. 4,000) 25 miles west of Dubuque, has been a place where a certain breed of American romantic converges. Some 60,000 visitors find their way here each year, traveling country roads and dirt lanes to a site where fantasy and reality intersect. On a five-acre stretch of cornfield just northeast of town, director Phil Alden Robinson filmed *Field of Dreams*. The 1989 movie starred Kevin Costner as a baseball-obsessed farmer who heeds a disembodied command ("If you build it, he will come") and sets out to construct a ball field in the middle of nowhere. Today, the diamond built for the film has become a fixed location in the geography of the imagination. Tourists arrive equipped with bats and balls to play catch, sit in bleachers (another relic of the set) or organize teams of strangers in pickup games.

"People will decide to holiday in the Midwest for reasons they can't fathom or express," W. P. Kinsella wrote in *Shoeless Joe*, the 1982 novel on which the film is based. The ghost who haunts Costner's character is Joe Jackson, the best known of eight White Sox players banned from baseball for fixing the 1919 World Series. Jackson yearns, on this improbable field, to make his peace with the sport.

Tourists find the route to the Field of Dreams well marked; signs point the way down a series of progressively smaller roads. Drivers then must choose one of two final left turns, onto graveled driveways spaced eight feet apart. The first leads to a grassy expanse identified on a billboard as the Left and Center Field of Dreams; Rita Ameskamp owns this property, which is managed by Keith Rahe, a former Dyersville farmer. The second turns onto the Original Field of Dreams Movie Site, the infield belonging to Don and Becky Lansing. In the film, their white clapboard farmhouse overlooking the field was the home of Costner's character, Ray Kinsella (the author's namesake).

A power line, running overhead from inside third base and across center field, marks the boundary between the two properties. Neither the Lansings nor Ameskamp charges admission, although both sell souvenirs. There the similarity ends: the owners hold opposing views of what a visitor's experience should be.

On the last Sunday of every month, June through September, Rahe puts on a baseball demonstration. The Ghost Players are a team of local semipros who suit up in vintage White Sox uniforms to showcase their ballplaying skills—and clown around. (The troupe—who call themselves the Harlem Globetrotters of Baseball—has traveled the world; Rahe is the general manager.) Yet, back in Iowa, should a ball get knocked over the property line, the Ghost Players are legally bound to remain on their home turf; a tourist must be dispatched to retrieve an errant line drive or homer.

On their side of the dividing line, Don and Becky Lansing avoid commercial diversions. "We want the field to be simple and serene," says Becky, "just like it was depicted in the movie." The tourists who show up at their field of

Soon after the 1989 movie (with Kevin Costner as Ray Kinsella, below) opened, visitors converged on the fields where it was filmed. The farms belong to Don and Becky Lansing (opposite, top) and Rita Ameskamp (opposite, below), with her late husband, Al.

EVERETT COLLECTION

BETH PY-LIEBERMAN is an associate editor at SMITHSONIAN.

dreams contemplate a vista of green cornfields stretching to the horizon.

Nearly everyone in town tells a story about the summer of '88 when the film was shot. One woman recalls a moment when Costner kissed her on the cheek; others remember chatting with James Earl Jones (who played the reclusive writer Terence Mann) on the set. A few possess baseballs signed by Burt Lancaster, who portrayed the aging, old-time ballplayer Moonlight Graham. Paul Scherrman, a former semipro ballplayer who owns a farm- and construction-equipment dealership in a nearby town, had a nonspeaking part as a White Sox catcher from 1919. He is prouder, however, of dispensing pointers to actor Ray Liotta (Shoeless Joe). "Liotta's not a baseball player," says Scherrman. "He tried hard, though."

Sue Riedel, who teaches speech and theater at Hempstead High School in Dubuque, put the field of dreams on the map. In 1987, she was working for the Dubuque Chamber of Commerce when she was tapped to scout locations for the film. "The novel takes place in Iowa," she says, "so I felt the movie had to be made here." On a summer afternoon, she snapped a picture of the Lansing house.

A month later, Riedel knocked at Don Lansing's door and informed him that Universal Studios wanted to use his house, which his German immigrant great-grandparents bought in 1906, in the movie. Lansing responded, "What, are you crazy?" Eventually, he came around to the idea.

Becky Dubuisson, a travel agent from Colorado, arrived in Dyersville in 1994 as a tourist. She had dreamed of living in the white farmhouse she had seen in the movie. Her wishes came true: she married Don Lansing in 1996.

A stiff breeze whistles through a stand of pines hard by the Lansing house; water burbles through Hewetts Creek. A kind of magic—an unearthly synchronicity—has taken hold in these cornfields. Two brothers who haven't seen each other in 20 years arrive here inexplicably on the same day. A young man proposes to his fiancée. From behind the mound, a pitcher, dreaming of a perfect game, fires a ball across the plate. An overweight batter pretends he has hit a grand slam and lumbers to first. Is this heaven? No, folks around here will tell you, echoing a line from the film, it's Iowa.

STEVE LISS / TIMELIFE PICTURES / GETTY IMAGES (2)

Living Tradition

Inhabitants of Whidbey Island, Washington, hold fast to their richly layered heritage ~ BY RUSS RYMER

SHOULD YOU EVER FIND YOURSELF driving the back streets of Whidbey Island, Washington, at two in the morning, don't be surprised if you have to share the road with a house—and an early 20th-century one at that. Over the past couple of years, the Goosefoot Community Fund, a local activist group, has been hauling entire houses by truck from one location to another within the little town of Langley. The Goosefoot folks have so far rescued nine wood-frame cottages from the wrecking ball and, at the same time, provided shelter for residents who are in need of affordable housing. Goosefoot has another goal in mind with its middle of the night relocations: saving history, piece by piece, from developers who are razing houses to make way for new construction.

With its picturesque fishing and farming villages, melancholy vistas and fir- and cedar-forested shoreline, Whidbey Island is insulated from the bustle of nearby Seattle by the waters of Puget Sound. Locals brag that, at 45 miles from end to end, it's the longest island in the lower 48 (insisting that Long Island, New York, a pretender to the same crown, is a peninsula). Whidbey's charms are various: hiking amid the trees and open fields of the island's relatively untouched southern end, sampling the state's greatest concentration of bed-and-breakfasts, in the village of Langley, and exploring the hidden beaches and old-growth forests of north Whidbey, which is more settled.

Whidbey's popularity could, of course, engender its destruction—which is why the inhabitants have taken up protecting what they love here, from the island's social and economic diversity to its living traditions. "There's a richness to life on Whidbey," says Nancy Nordhoff, 71, who came to Langley 15 years ago from Seattle to start the Hedgebrook Writers Retreat for Women; in 1999, Nordhoff founded Goosefoot Community. The craftsmanship visible in the island's farmhouses and Victorian cottages, she says, inspires nothing less than a way of life. "The surroundings give you the feeling that if you live here, you must give back to this place."

It's a place with a rich if turbulent history. The ice age bore down 100,000 years ago, bulldozing a wide, flat prairie out of the middle of the island and depositing a layer of rich soil, ideal for growing camas bulbs (tubers prized by Native Americans), potatoes, grain, enormous Hubbard squashes and even peas, until the pea weevil devastated the crop during the Depression. European farmers had arrived in the mid-1800s, bringing with them tuberculosis and racial animosities that eventually killed off the Salish Indian camas farmers. Chinese immigrants came here in the 1880s, living in shacks and working the potato fields until they, too, were driven off by islanders in the 1920s. Every winter, storms lash in from the Pacific with a wind velocity that natives describe as "like a hurricane."

In 1978, President Jimmy Carter signed legislation creating the nation's first agricultural preserve on a 17,400-acre tract of land near Coupeville, the

With its historic fishing villages (including Coupeville, founded in 1852, below), tracts of old-growth forest and meadow, and a network of trails for cyclists and hikers (opposite, top and below), Puget Sound's Whidbey Island constitutes a rural oasis reachable by a 20-minute ferry ride from Seattle.

Writer RUSS RYMER *lives in Portland, Oregon.*

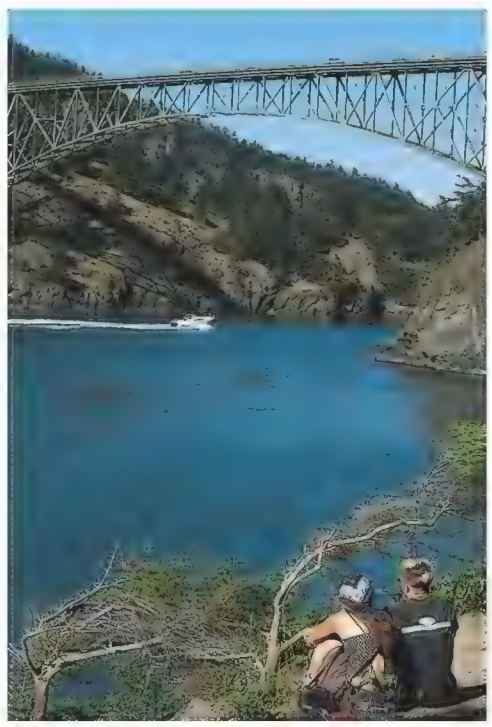
WOLFGANG KAEHLER / CORBIS

county seat. The act does not prohibit development outright, but allows families to maintain their farms by selling future development rights to the government. The result is an uninterrupted panorama of working farmland, framed by Puget Sound, the Olympic Peninsula and two snowcapped mountain ranges. "Growing within 30 miles of here is the greatest food I've ever seen," says Inn at Langley chef Matt Costello, as he prepares to turn diners loose on his $80 per person, six-course *prix fixe* dinner of local beef, freshly caught crabs and homegrown vegetables.

Virginia planters and New England sea captains colonized the island in the mid-1800s. Many of the prairie houses are even today inhabited by descendants of the original families. Other dwellings, legend has it, are haunted by their ghosts, like the woman sometimes seen to be staring from the downstairs window of the 1853 Coupe House, the oldest in Coupeville.

Some pioneer descendants have epic stories to tell. Consider, for example, the saga of Jacob and Sara Ebey, who bought a choice parcel of land in 1854, built a house on it and called it Sunnyside Farm. They found there "nothing but tragedy," according to Sally Hayton-Keeva, author of *Ancestral Walls: Old Abodes of Central Whidbey Island*. "The whole family ultimately met ghastly ends," she says. Several died from tuberculosis, another fell from a cliff while picking berries, still another was beheaded by Indians. And there were heroes too. In 1903, Ernest Hancock rented some land to one Wah Lee, incurring his neighbors' wrath; Hancock's letter to his fellow settlers, an eloquent defense of the island's Chinese inhabitants, likely prevented reprisals.

TODAY, the last of the shanties that housed Chinese laborers molders away in the reeds, wallpapered with faded 1907 newsprint. The 1860 Ferry House, near Coupeville, leans into the wind. "God knows what's held it up, except the linked arms of phantoms," says Hayton-Keeva. She recently finished restoring the 1902 San de Fuca schoolhouse, also in the vicinity of Coupeville. To celebrate that accomplishment, a reunion of former students was held there in September. Hayton-Keeva pulled the bell rope to ring in 18 alumni who last attended a San de Fuca class more than 60 years ago. "It was fun," says Lillian Dean Hufstetler (class of '32 and granddaughter of Ernest Hancock), who gathered wildflowers as a child in the field below the school. She suggested that a visitor might want to look up her first cousin Bob Hancock, for his especially rich cache of Whidbey tales. As things turned out, though, Hancock, 86, was not available: he was out on his tractor, planting 500 acres of peas.



JOEL W. ROGERS / CORBIS; PHIL SCHOFIELD

O'Keeffe Country

In Santa Fe, a museum devoted to the pioneering artist pays homage to her genius ~ BY PAUL TRACHTMAN

GEORGIA O'KEEFFE first cast her eye on the seductively dramatic vistas of New Mexico in 1917. Eventually, the high-desert terrain north of Santa Fe—a landscape she painted with an obsession born of genius—would become known as O'Keeffe Country. The artist died in 1986 at the age of 98, but the landscape remains hers; now a museum is devoted entirely to the work she created here.

The Georgia O'Keeffe Museum, which opened in Santa Fe in 1997, houses the largest collection of the artist's work anywhere in the world—some 130 paintings, watercolors, pastels and sculpture. Its holdings also encompass art by a number of artists whose work relates to O'Keeffe, including images taken by her husband, the influential avant-garde photographer Alfred Stieglitz.

"This is a place for people to look at O'Keeffe's art and understand it in relation to American Modernism," says curator Barbara Buhler Lynes. An understanding of that broader context, she continues, may preempt a tendency to "pigeonhole O'Keeffe as 'somebody who *can't* be that good because she's so popular!'" It is certainly true that the work of few—if any—American artists is more familiar; posters of O'Keeffe's paintings have become a fixture of shopping mall interiors and motel walls. A stroll through the museum, however, offers nothing less than a revelation: in these spare, sunlit rooms, it is as if one is seeing her work for the first time.

Georgia O'Keeffe (at age 49 in 1937, below) drew inspiration from her high-desert surroundings. Today, the O'Keeffe Museum (opposite, above) contains the world's largest collection of her artwork. The artist painted the Southwestern landscape *The Cliff Chimneys* in 1938.

There is, as it turns out, no better place to reexperience O'Keeffe than in the physical and cultural surroundings that drew her to this corner of the Southwest. The museum, housed in an early 1900s mission-style adobe structure originally built as a Baptist church, lies two blocks from Santa Fe's historic central plaza, where Native American artisans, seated under a block-long portico, sell their silverwork and beaded jewelry. The sprawling museum showcases the redesign by noted New York architect Richard Gluckman, who also created a museum in Pittsburgh for another wildly mainstream American artist, Andy Warhol.

The architect took into account O'Keeffe's exacting directives concerning how her work was to be displayed. The museum's nine galleries recall the artist's home in the village of Abiquiu, 50 miles north of Santa Fe: the gallery walls are colored in earthy hues evoking New Mexico's canyons and deserts; natural light, beloved by O'Keeffe, streams in through skylights. The eccentric arrangement of the galleries, constructed in different sizes and configurations and featuring varied ceiling heights and walls canted at unusual angles, suggests the charm and intimacy of a northern New Mexico dwelling built over many generations.

As a pioneering abstract painter in New York during the 1920s, O'Keeffe, who had married Stieglitz in 1924, had already begun to secure a major reputation before she turned to the New Mexico landscape for inspiration. In Stieglitz's circle, she came to know some of the country's most celebrated Modernist painters—John Marin, Arthur Dove, Marsden Hartley and Stuart Davis. "But they all were influenced by European artists," says Lynes. "One of the striking things about O'Keeffe is that she really put that aside. She did not want her work to be interpreted as Cubist, or Expressionist, or anything else."

The artist began painting in New Mexico in 1929 and made it her home in

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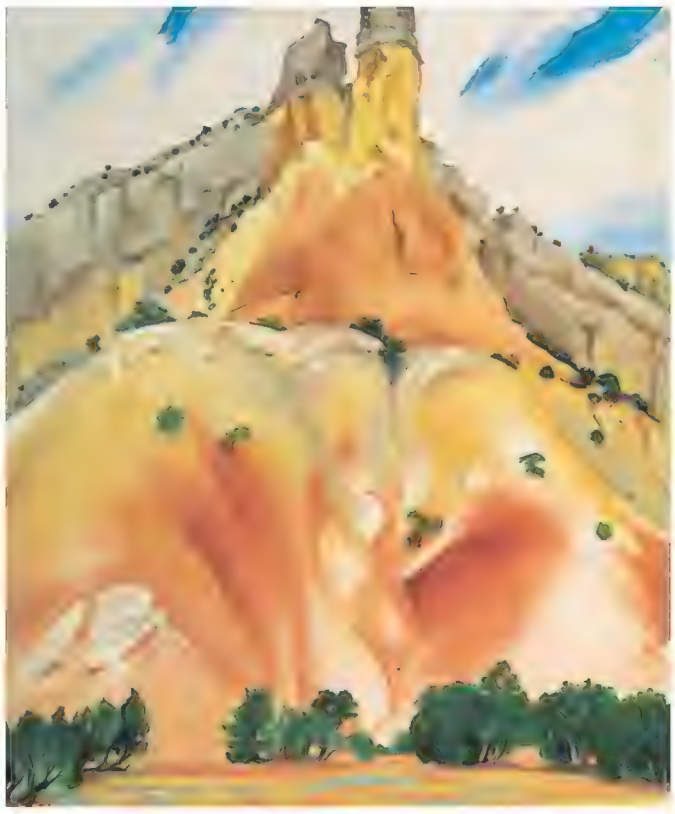
1949, three years after Stieglitz's death. As O'Keeffe's life became rooted in this landscape, says Lynes, "she created an imagery that was her own. It was very different from any other artist who had ever worked in New Mexico—or in America."

The paintings of flowers and bleached desert bones, in addition to the landscapes, have taken on an iconic power now. A new exhibition (June 11 through September 12) will pay homage to O'Keeffe's genius for melding the abstract and the actual. "Georgia O'Keeffe and New Mexico: A Sense of Place" displays 50 of her New Mexico landscapes; the works are accompanied by photographs taken today at the sites where she painted them.

A visitor to the exhibition might also want to drive out from Santa Fe into the landscape O'Keeffe inhabited. Her first studio, at Ghost Ranch, lies 60 miles to the north, in a country shaped by a violent geological history of volcanic eruption and water and wind erosion. Here, the artist's appetite for abstraction was fed by the land itself, with its stratified cliffs, canyon walls, dramatically contoured mesas and winding riverbeds. Her subsequent home at Abiquiu is open to the public, though only by appointment. (Access is limited, so arrangements should be made well in advance.)

After her first summer painting in New Mexico, O'Keeffe returned to the East with a barrel of bones she had collected in the desert; she set to work painting skulls. As she outlined a white cow skull on a blue background, it occurred to her to lay red stripes down its sides. "I thought of the city men I had been seeing in the East," she later wrote. "They talked so often of writing the Great American Novel—the Great American Play—the Great American Poetry. I am not sure they aspired to the Great American Painting." But *she* did. "So as I painted along on my cow's skull on blue I thought to myself, 'I'll make it an American painting. They will not think it great with the red stripes down the sides—Red, White and Blue—but they will notice it.'"



RICHARD CUMMINS / CORBIS; PETTIT FOUNDATION AND THE GEORGIA O'KEEFFE FOUNDATION

Time Capsule

The 18th-century village of Old Salem, North Carolina, endures as a lovingly restored urban oasis ~ BY WENDY MITMAN CLARKE

IT'S NOT SO VERY CROWDED at the Winkler Bakery in Old Salem, North Carolina, which is to say the line has not quite snaked out the door. Inside, the yeasty fragrance of fresh bread mingles with the sweet scent of two local delicacies—Moravian sugar cake and sugar cookies—and wafts over visitors who watch as bakers wrap textbook-size slabs of cake in waxed paper. The cakes, still warm, slowly turn the paper translucent; momentarily, the parcels will be taken to the retail counter.

"Sugar cake has a potato-based dough," says baker Thomas Hauser as he takes up a square of waxed paper. "It has brown sugar, cinnamon and butter. It's like coffeecake. It tastes great." Along with the bread and cookies, the cake represents a historically accurate product of the Winkler Bakery, which has operated at this location (except for a brief hiatus in the mid-20th century) since 1800; Christian Winkler took over in 1807. Hauser, dressed in a waistcoat, cotton shirt and trousers, is attired as he would have been in Winkler's time: in addition to being a baker, Hauser is also a reenactor, one of 68 historical interpreters on staff in Old Salem.

With its careful blend of historic interpretation and contemporary reality, the Winkler Bakery could serve as a metaphor for the town of Salem itself, today a restored village one-third the size of its larger and better-known counterpart, Colonial Williamsburg. Founded in 1766 by Eastern European members of the Moravian Church, Salem grew up as a meticulously planned community. The settlement thrived in North Carolina's Piedmont foothills for nearly a century until cultural influences and a changing economy ended the church's strict control. In 1849, the church sold an adjacent chunk of land, which became the site of Winston, the county seat. By 1913, the towns merged to become Winston-Salem; the latter slowly declined, its historic buildings succumbing to neglect.

In Old Salem, North Carolina, 68 historical reenactors (a baker, opposite, checks a wood-fired oven, and a red-cloaked homemaker, below, heads inside an authentically restored 18th-century house to prepare a meal) create a realistic sense of what life was like in Colonial America.

But the village was not forgotten, says John C. Larson, vice president of restoration for Old Salem Inc., the nonprofit organization that formed in 1950 to restore the town. "Poverty is a friend of preservation, in a way," he says. "The town just wasn't reinvested in. And there was no focused historical identity." Over 54 years, Old Salem Inc. has methodically removed 200 or so 20th-century buildings, restored original structures and built historically accurate reconstructions of others. Assiduous record keepers, the Moravians left precise details of everything they built, planted and produced in Salem, providing archaeologists and historians with a remarkably accurate architectural and cultural blueprint.

Today, Old Salem, as it is now known, thrives as a district of 100 restored buildings, 73 of them original, 18 open to the public. All are staffed with interpreters and filled with artifacts, from an 1800 Moravian-built pipe organ (still played) to the utilitarian tools of everyday life. Modern Winston towers around it; a

WENDY MITMAN CLARKE, an editor at Chesapeake Bay *magazine, lives in Annapolis, Maryland.*

RICHARD ROBINSON (2)

Route 40 offramp whizzes just beyond God's Acre, the cemetery where Salem's 18th- and 19th-century residents are buried. Old Salem sits amid the bustle of the 21st century like a rock in a rapid: its peaceful, tree-lined streets, brick and Germanic half-timbered houses and buildings, and historic gardens constitute an unexpected and unique urban oasis.

It's easy-walking to tour the town and learn about Salem's Moravians, whose story began in what is now the Czech Republic, when they broke from the Catholic Church in 1457. In the early 1700s in Saxony, they founded the town of Herrnhut, which became a model for overseas settlements like Salem. The church organized and oversaw all aspects of life, including a person's trade and choice of spouse. An insistence on orthodoxy, however, also enabled the community to produce beautiful and sturdy goods, from Gottfried Aust's ceramics and Germanic pottery to Johann Gottlob Krause's exquisite ornamental brickwork, evident in buildings throughout the town. Today, accomplished artisans ply many of Salem's trades in the same buildings where craftsmen originally labored, demonstrating shoemaking, cooking, weaving, tailoring, joinery and pewter- and tin-making.

EVEN BY THE EARLY 1800S, cultural changes were challenging the theocracy's primacy. "By the time you get to the 19th century, you have primarily Moravians who were actually born in the United States," says John A. Caramia Jr., Old Salem Inc.'s vice president of education and interpretation. "Then the links with Herrnhut stretch and break." The evolution of Salem, he says, "also tells us a lot about what's going on in this country, especially in the South, in the 19th century."

Historians have been learning a great deal about the conditions of African-Americans in the village. The church owned slaves, but did allow them to join the church, learn to read and write and to earn money. At first, African-Americans worshiped alongside whites. But as slave rebellions flared up elsewhere in the South, segregation began to be enforced in Salem. By 1823, blacks had built their own log church, following it in 1861 with a brick building, the newly restored St. Philips.

An exhibit within the reconstructed log church records a handful of their stories. Artists have created portraits of Salem's 18th- and 19th-century African-Americans; visitors can also listen to recorded evocations of their lives, based on fragments of documentary evidence. For instance, Timothy (1738-1838) is represented as an ebony monolith topped with the ghostly outline of a face. "I am 100 years old, and still suffer," his narrator tells us. "When I die, finally I'm free." A portrait of Fanny (1749-1834), who was born in Guinea, is painted in tropical blues. She had begun visiting a Baptist congregation because the Moravians disapproved of her tendency to "show my spirit" while worshiping: "Pastor Steiner complains in front of the congregation about acting out," she says.

The despairing figures in the log church are a world away from the cheery warmth of the Winkler Bakery. But the complexities of the town's past also make it compelling. These settlers who had faith enough to carve a thriving life out of the Colonial wilderness left behind a rich testament to what became their imperfect but uniquely American story.

Before the Mast

Aboard the sailing ships of the Maine Windjammer fleet, passengers voyage into America's maritime history ~ BY MARIALISA CALTA

"WHERE SHALL THE WINDS TAKE US TODAY?" John Foss, captain of the *American Eagle*, likes to pose this question each morning as his 92-foot, two-masted schooner gets under way on Maine's Penobscot Bay. The vessel might skim down Eggemoggin Reach to Cranberry Island—where, in season, the gardens bordering trim clapboard houses are in bloom and the general store sells boxes of blueberries—or swoop over to uninhabited Wreck Island, its pebbly beach littered with bleached mussel shells and lobster claws from bygone clambakes.

Foss, 57, is the owner and skipper of one of 14 vessels in the country's largest traditional sailing fleet: the Maine Windjammer Association of Camden, Rockland and Rockport. Once responsible for ferrying lumber, granite and other goods up and down the East Coast, the fleet is keeping the 19th-century schooner trade alive and well in the 21st. Today, however, the cargo happens to be passengers.

"These boats are still doing what they were meant to do, which is making money for their owners," says Bob Tassi, skipper of the *Timberwind*, a 1931 windjammer that sails out of Rockport. In 1998, Tassi, now 49, abandoned a successful career as a music producer in Nashville, Tennessee, to take a job as a deckhand aboard the *Stephen Taber*. "One year I was at the Grammys, the next I was scrubbing decks for 125 bucks a week," Tassi says. He has never regretted the move.

Today, along with his wife, Dawn (a nurse who doubles as the ship's cook), Tassi takes on 20 passengers a week, sailing three-, four- and six-day cruises from May through early October. Onboard, his 3-year-old daughter, Emily—sausaged into a pint-size red life jacket—climbs in and out of her mother's lap, or helps scrub the deck, her chubby hands clutching the slippery sponge. Will Tassi, age 8, organizes other kids for a swimming expedition off the starboard bow. Dawn, her blonde hair tied in a ponytail, routinely wakes at 4 a.m. to stoke a wood-fired cookstove and start breakfast for guests and crew. Tassi spends his days charting a course, factoring in the effects of weather and tide, and keeping passengers entertained and informed; he looks most content when, sails taut, the *Timberwind* flies like a giant moth across the water.

In the 19th century, thousands of schooners plied Maine waters; the Penobscot River near Bangor was said to be so jammed with boats waiting to load and unload goods that a person could cross the river on their decks. Once steam and rail began to prosper, however, the schooner trade fell into decline: boats were left to rot. As early as 1935, a former Navy seaman, Frank Swift, began an effort to save a handful of the historic tall ships. Today, several surviving schooners date back to the 1800s, including the *Lewis R. French* and the *Stephen Taber*; others, like the *Heritage*, are reproductions of 19th-century vessels, built for the passenger trade as recently as 1983. All are privately owned; nine are registered as National Historic Landmarks with the U.S. Department of the Interior.

Although all the boats have been refurbished, a Maine windjammer was not designed to afford luxurious accommodation—as passengers quickly learn. "There is no way I'm getting on that thing," Martha (Mattie) Mosher, 90, of nearby Hope, recalls insisting in 1941. That year, at the age of 26, she had driven up from New Jersey to take her first schooner trip on the *Mattie*. Cabins in the aging hulk were lit by kerosene lamps and furnished dormitory-style; there

In coastal Maine (home to the 40-passenger *Victory Chimes* and lobster feasts, opposite), 14 historic vessels maintain a long tradition of hospitality. Several Windjammers (including the *J. & E. Riggin*, below) are especially family-friendly; the crews welcome children.

MARIALISA CALTA, who is a freelance writer in Vermont, frequently reports on travel and history.

THE MAINE WINDJAMMER ASSOCIATION

THE MAINE WINDJAMMER ASSOCIATION (2)

was no running water. But once aboard, Mosher was hooked. "I woke up that first morning to the smell of coffee and bacon and salt from the sea, she says. "I said 'these are my digs.'" She returned the next year to begin her long association with the *Mattie* (later rechristened the *Grace Bailey*); she met her late husband onboard and was given her nickname there.

The amenities have improved considerably: many boats now have hot and cold running water in cabins; reading lamps; fresh-water showers, even pianos. But inconveniences remain: temperamental toilets, a lack of privacy and cramped quarters. "I have closets that are larger than the cabins," says Nancy Seibert of Camden, who made her first schooner voyage aboard the *Stephen Taber* in 1983. Still, she says, "to be out on the water with no vestiges of civilization, no sounds of motors—except for the lobster boats—the wind providing your power, releases you. You look at life differently." A regular on the *American Eagle*, she lays claim to her favorite berth—Cabin C—where she can lie snug in bed and hear Captain Foss in the galley, reading aloud to passengers: Kipling's *Captains Courageous*, perhaps, or "Good-by, Lobsters" by Maine poet Holman Day.

"It's the third day that does it," says Annie Mahle of the *J. & E. Riggin*, a 1927 oyster schooner. "The third day is when the magic really happens." Mahle, who is a chef as well as a licensed captain, and who works the boat with her husband, Capt. Jon Finger, explains: "That first day, when people come aboard, their shoulders are up around here," she says, hunching her shoulders up to her ears. "But by the third day, they are here"—she relaxes, tossing back her long, straight hair—"and folks have gotten to know each other; they are teasing, playing jokes, having fun."

The vessels have distinct personalities. The *Stephen Taber*—captained until recently by accomplished singers Ellen and Ken Barnes, and now by their son, Noah—is identified with onboard musicians. Bruce Greenleaf, a frequent passenger on the *Mary Day*, chose it because the rigging—it is the only schooner in the fleet that flies a fore topsail—makes her resemble his grandfather's boat. "It is a way of connecting with my grandfather, a link with the past," he says.

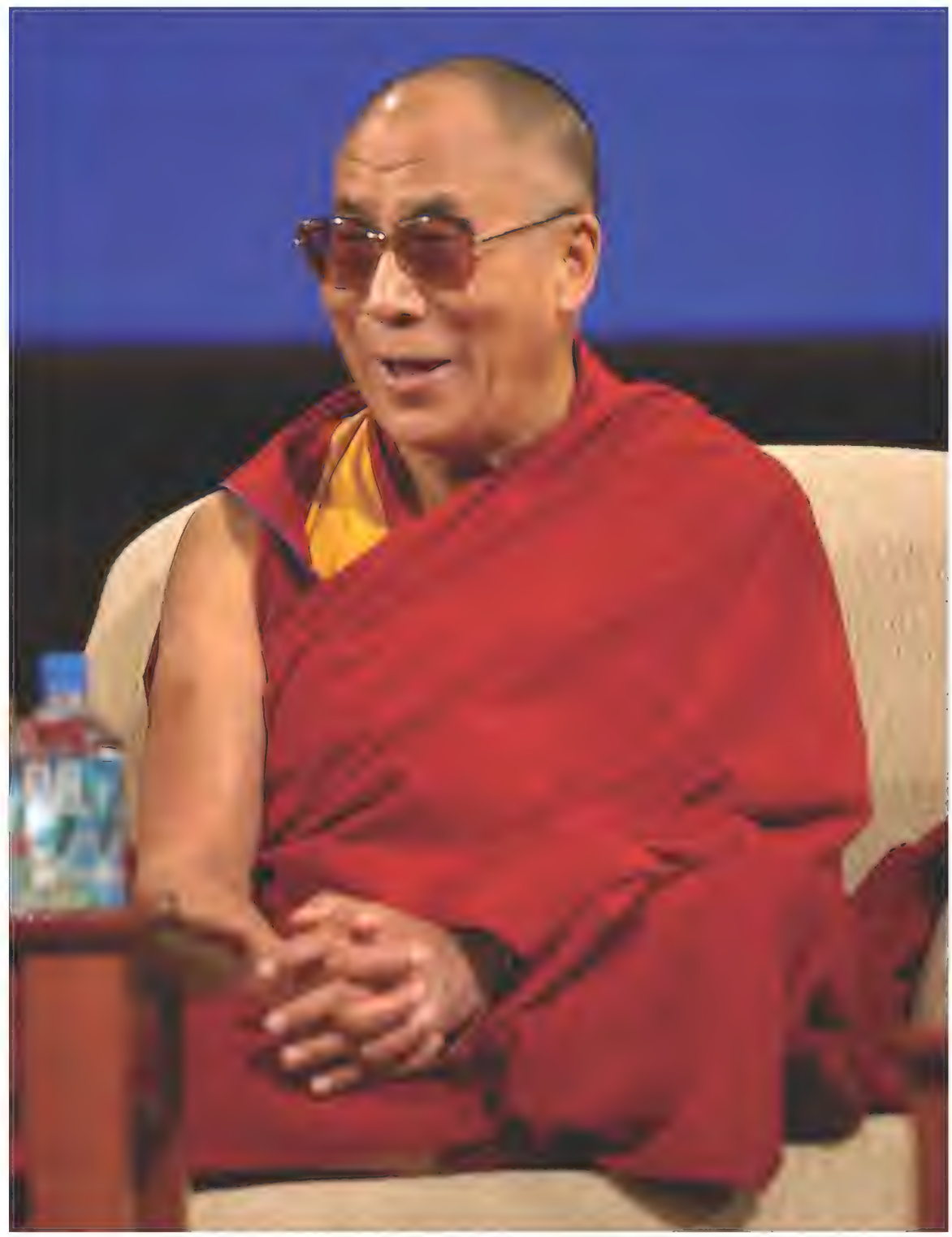
Each captain tells at least one horror story of a schooner misfit: a woman who arrived toting a huge steamer trunk and expecting a "stateroom"; a family who brought a battery-operated TV/VCR aboard; a businessman wedded to his cellphone. But most passengers seem to understand what they are getting into; considering the number of repeat sailors, they don't seem to mind the no-frills aspects of the voyage. "There are two great places to sail in the world," says Foss. "One is the coast of Maine. The other we haven't figured out yet."

The (Scientific) Pursuit of Happiness

What does the Dalai Lama have to teach psychologists about joy and contentment? ~ BY CHIP BROWN

YOU'D THINK a scientifically literate and technologically sophisticated society that has established the pursuit of happiness as an unalienable right would know a little more about what the damn thing entails. But scientists long ago ceded the investigation of happiness to ministers, novelists, therapists, travel agents, brewers, ad executives and vice squads. When medical scientists did think about happiness, they tended to view it in the negative, as freedom from depression. Such is the bias that a recent survey of 30 years of psychology publications counted 46,000 papers on depression—and a piddling 400 on joy. As Martin Seligman, a University of Pennsylvania professor and former president of the American Psychological Association, put it in 1998: "Social science now finds itself in almost total darkness about the qualities that make life most worth living."

This state of affairs undoubtedly has a lot to do with why a panel of psychologists and a crowd of 1,200 gathered at the Massachusetts Institute of Technology (MIT) this past September to hear a 68-year-old Tibetan named Tenzin Gyatso, better known as His Holiness the Dalai Lama, the 14th manifestation of the Buddha of Compassion, Nobel Peace Prize winner and exiled leader of Tibet. As the chief exponent of a 2,500-year-old religion dedicated to the mitigation of suffering, he is sort of the high priest of happiness. And while he may not know more about the secrets of well-being than his 13 predecessors, he has brought the Buddhist philosophy of joyful compassion to vast audiences in the West. His MIT appearance was followed by a lecture at the Fleet Center in Boston before some 13,000 people and rock-star-size crowds at venues in other American cities. His 1998 book *The Art of Happiness* (coauthored by psychiatrist Howard C. Cutler) was a *New York Times* bestseller, assuring readers that the purpose of life is to "seek happiness" and that "the very motion of our life is toward happiness."



A key to happiness, says the Dalai Lama (in Boston last September), is compassion.

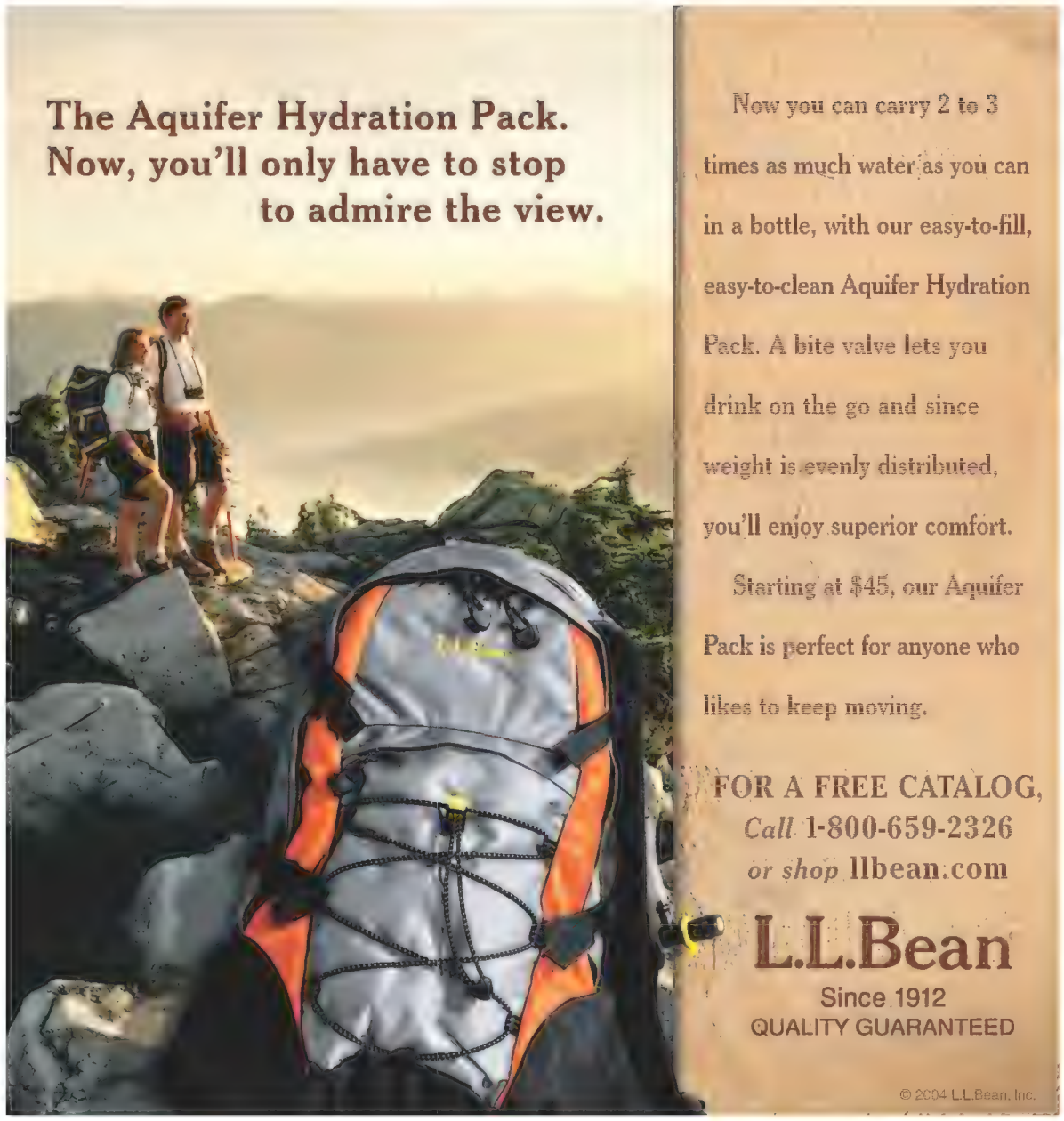
ALL: ALISON WRIGHT / CORBIS

It's hard not to be wary of such claims because so much of medical history suggests that the prophets of positive thinking are often moonstruck, cynical or blind. But in the past decade scientists

have toppled some shibboleths about the supposedly hard-wired brain. New evidence shows that as the brain can change its mind, so can the mind change the brain. We seem to have much more sway over our emotions and thoughts than was previously believed, and Western researchers, once hostile to Eastern claims about mind-body interactions, are now eager to explore them. (Seligman launched the "positive psychology movement" to search for the factors that may make life seem more of a blessing than a burden.)

No one has promoted the gospel of cultivated happiness more exuberantly than the Dalai Lama. Since 1987, he has led a series of conversations between Western scientists and Buddhist scholars, seeking to bridge two philosophical traditions with different concepts of the mind and different methods of exploring mental phenomena. The MIT conference was the first time the public had been invited. Eager to see how the man behind the book might be walking his talk, I took a train from New York to Boston on a Friday, arriving in time for a press conference the Dalai Lama was giving at a Cambridge hotel.

His Holiness walked into the small conference room wearing glasses, a red robe with a yellow shoulder band and red sneakers. He began speaking in Tibetan, which was converted into elegant English by an interpreter at his side, but occasionally he broke into English himself. Until recently, he said, science has been concerned mainly with *things*—external reality. Now science was turning to our inner world. It was important work, because it could show us how we might make ourselves happier and also transform society. Science and Buddhism had the same goal, he said, though science was far more advanced in some areas, notably physics and neurobiology, while Buddhism had much to offer psychology and could be especially helpful to Westerners whose affluence has failed to make them happy. "Some Buddhist techniques [for enhancing happiness] can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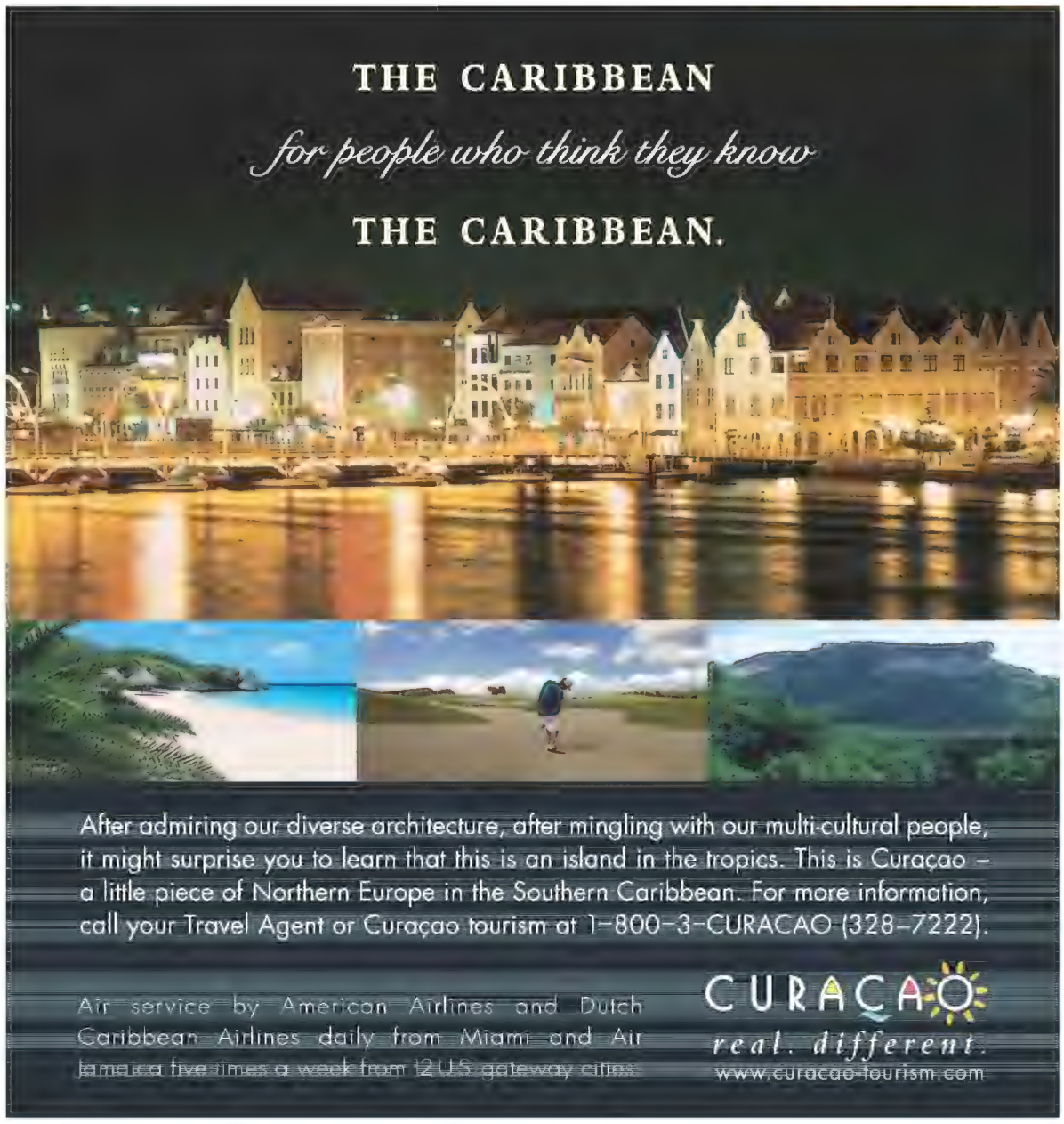
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be used even by nonbelievers or someone totally against religion," he said.

When it was time for questions, I was first in line, having battled a pair of Korean TV journalists for an aisle seat near the microphones. On the train ride up, I had decided my personal happiness would be increased if the Dalai Lama could resolve (preferably in 25 words or less) the competing claims of science and religion, which have vexed me ever since my father said the Moon wasn't made of Canadian cheese. Who better to address the tension between the two cultures of faith and doubt than the Dalai Lama—a spiritual leader who is known to be eager to sift the doctrines of his beliefs through the sieve of science. Like many Westerners (albeit an apparently dwindling number in America, where recent polls show more than 70 percent of the country believes in God, heaven, miracles, angels, hell and the devil), I had been raised to see science as the royal road to truth, and to venerate objective data as the incontestable basis of facts. Did His Holiness believe that the knowledge contained in ancient Buddhist texts was as reliable as what could be gleaned by experimentation? Would he agree that on questions such as why people get sick, or where we stand in the universe, religion has to take a back seat? More to the point, what gave him faith that his divinations about the nature of the mind were true—that his glimpse of "interior reality" was not compromised by the built-in distortions, biases and outright illusions of our helplessly blinkered and culture-bound selves?

A bottle of Snapple had leaked in my backpack, and when I opened my notebook I found my list of lovingly nuanced questions had washed down the page like mascara on the cheek of a weeping club girl. All I could think to ask was, Have any Buddhist doctrines ever been modified in the light of a Western scientific discovery? Back came the translation: Yes, Buddhist views on the distance between the Earth and the Moon and other pre-

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Buddhism gladly embraces some scientific findings, says the Dalai Lama (at MIT with geneticist Eric Lander, left).

Copernican calculations had been revised or were in the midst of being revised to take modern astronomical findings into account. Oy! The Dalai Lama had already conceded that science was the arbiter of external reality. What I had meant to ask—it went to the central issue of the conference—was if any *psychological* doctrines had been modified. But some other journalist was already launched on a question, and my moment with the Buddha of Compassion was gone.

IT TURNED OUT not to matter. The next day, when he addressed the scientists at MIT's Kresge Auditorium, it was obvious even in the back rows that it's not what the Dalai Lama says that best conveys his meaning, it's how he *is*. You can find more articulate and intellectually stimulating summations of the Buddhist path to happiness than *The Art of Happiness*, but you won't find an author who embodies the message as completely. Not for nothing is the Dalai Lama known to his people as "Kundun," or "the presence."

As he came scooting around the sunflowers and the PowerPoint projectors onstage, I was struck by how happy he seemed. And it was not the witless cheer of a Pollyanna with no grasp of man's cruelty. It seemed

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rather the happiness of someone who reveres life despite sound reasons not to—a man whose philosophy has not led him into despair. Happiness was in him like ginger in a cookie. He took a seat on a chair in the middle of the stage and tucked his legs up under him in the lotus position. Any middle-aged American male who has tried to get his legs into the lotus position was bound to be impressed. Two other monks seated on his left had the same aura of being at home wherever they were. That rooted quality, I presume, reflected years of mental training and meditation. It also made for a brilliant demonstration of the Buddhist contention that the key to happiness lies in the ability to control what is sometimes called the "monkey mind," the undisciplined consciousness that scrambles from thought to thought, impelled by negative emotions and impulsive desires.

The contrast between the Buddhist delegation and the Western scientists in their Sunday suits and ties was illuminating. The academics—a Nobel laureate among them—were brimming with intellectual enthusiasm. But what the monks embodied, the scientists could only discuss, as if barred from cultivating the transcendent qualities their philosophy disallowed. Most view the mind as a function of the brain. In contrast, Buddhists view the mind as an expression of a consciousness that reincarnates over many lifetimes and exists not for the Darwinian reason of replicating genetic material (and perhaps securing tenure at a good university), but to seek happiness and fulfill one's karmic destiny.

The conversations over the ensuing two days were focused on the difference between Western and Buddhist notions of attention, mental imagery and emotion. It was funny to hear the scientists repeatedly make the point that they didn't want to treat Buddhist practitioners as guinea pigs, though it was precisely the monks' unusual abilities that made them intriguing research subjects. There is evidence, for instance, that experienced Buddhist

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The pursuit of knowledge in Buddhism is tied to virtue. By contrast, Western science can as easily weaponize smallpox as cure it.

meditators can hold a given image in mind for hours at a stretch, a discipline that has prompted some psychologists to question their assumptions about the limits of attention.

By the conference's end, it was clear even to many of the scientists that Buddhism has much to teach Western science about the capacity to train and regulate the mind. Likewise, Buddhism as a metaphysical premise—a religion, a faith—may also have a thing or two to teach about the ground out of which happiness grows. Part of what ails Westerners is the presumption that unhappiness is our lot. Buddhist beliefs redress the pessimism of Freud, who believed the only happiness people could achieve was the meager satisfaction of deliverance from deluded hopes and grandiose fantasies: in his famous phrase, the tepid relief of transforming hysteria into "common unhappiness." But perhaps the biggest leap of faith lies in the Buddhist premise that human nature is compassionate and the science of "interior reality" is ethical. Discoveries imply right actions. Alan Wallace, president of the Santa Barbara Institute for the Interdisciplinary Study of Consciousness, said at the time, "The pursuit of knowledge in Buddhism is inextricably related to the pursuit of virtue, and the pursuit of virtue is inextricably related to the pursuit of happiness." Western science makes no such connection. It can as easily weaponize smallpox as cure it.

The science of the human mind is far too young to attempt anything like a unified theory of happiness, despite

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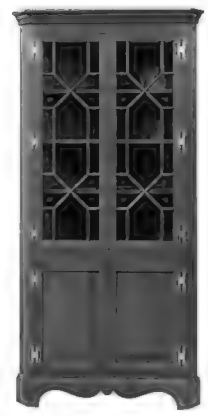

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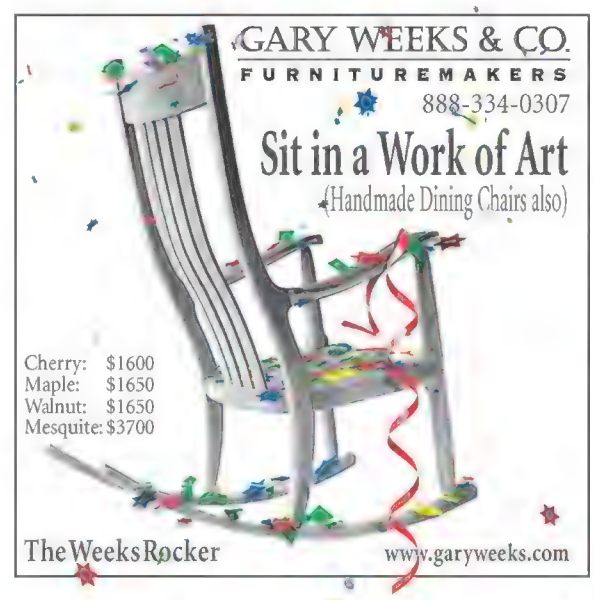

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Is there such a thing as genuine happiness? one scholar asked. Can you scientifically define what modes of life will lead to it, or to suffering?

the best efforts of drug companies to associate well-being with levels of serotonin, dopamine and other neurotransmitters. But the longing for such a theory runs deep. It was present as a kind of subterranean hope in many of the conversations at MIT, and burst into view when Wallace, musing on the issue of whether Buddhism could solve unhappiness the way antibiotics solved tuberculosis, interrogated the Harvard research psychologist Jerome Kagan: "Is there such a thing as genuine happiness?" Wallace asked. "Can you define it like a [subatomic] particle? Can you say what modes of life will yield genuine happiness? Can you define what mental behaviors will lead to it, and what ones will lead to suffering? If you can say—and Buddhism says you can—then why wouldn't you?"

What a tantalizing possibility—happiness existing in the domain of absolute truth, a material fact with a structure as exact as insulin. Kagan reflected for a moment, but the idea was not in his religion. "I don't believe there is one unitary happiness," he said, finally. "I believe there are many kinds of happiness."

Someday science may know enough to say differently. Until then, I will be continuing my so-far vain attempts to get into the lotus position and to quash the old scientific voice that always whispers "Maybe everything you know is wrong." It has a certain brio, that little voice, but enough is enough.

CHIP BROWN is the author of Afterwards, You're a Genius: Faith, Medicine and the Metaphysics of Healing.

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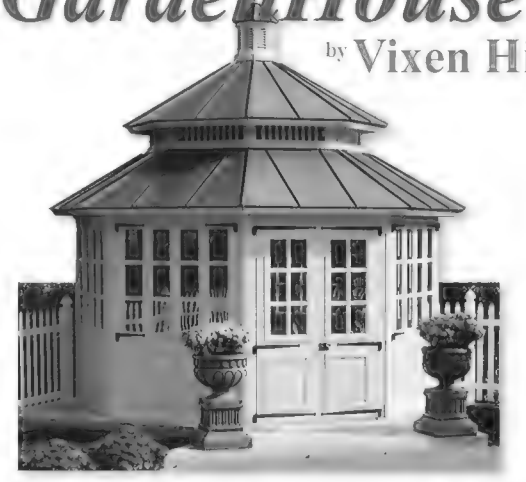

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Panorama Mama

In Los Angeles, bulldozers are circling Sara Velas' mural in the round ~ BY ED LEIBOWITZ

Sara Velas (inside her Hollywood Boulevard panorama rotunda) "was intrigued with the idea of doing some time travel." Her 360-degree painting, *The Panorama of the Valley of the Smokes,* depicts the Los Angeles Basin as it may have looked 150 years ago.

ALL: THOMAS MICHAEL ALLEMAN

"It wasn't just the painting," Velas says of her love of panoramas. "It was about everything that goes along with it—those crazy round buildings that housed them, the pamphlets where the writing was so overblown."

IN THE SAME BLOCK on Hollywood Boulevard where would-be Jean Harlows and Mickey Rooneys once toted their dreams to central casting, sits an oversize, circular Polynesian hut with a roof of blue tiles topped by what looks like a monstrous maraschino cherry. A silvery green sequined banner informs passersby that this is the home of the Velaslavasay Panorama, one of Hollywood's most curious—and most endangered—works of art. The building is slated to be bulldozed within a few months to make way for a supermarket.

Inside, Sara Velas, 27, the creator of the panorama—a 360-degree landscape painted on a 60-foot-long canvas—sports a tailored blouse and paint-spattered Mary Janes. Her intense brown eyes and severe braids suggest a subject in a 19th-cen-

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The former Chinese restaurant that houses Velas' Los Angeles panorama is scheduled to be bulldozed soon.

tury daguerreotype, but her voice is friendly and her laugh infectious. "It's kind of a composite," she says of her work, "even though we'd like you to feel like you were in one spot."

Down a hallway draped in orange curtains, an open door leads to the panorama itself. Called *The Panorama of the Valley of the Smokes*, it's a rendering of the Los Angeles Basin as it might have looked 150 years ago: a few brittle spires of sunbaked chaparral push their way out of parched ground, wildfires erupt in the distance and a single hacienda is poised on an arid plain. The painting's imagery came from photographic scraps Velas tracked down in the Los Angeles Public Library—blurry images of the Tujunga Wash and the Santa Monica Bay, a folded and torn photograph—or was it a drawing?—of the hacienda. Velas also turned to histories of Los Angeles to conjure up the idealized California of the mid-1800s. "On the East Coast at that time," Velas says, "there were so many rumors and ideas of what it was like out West. And what people didn't have direct access to, they invented."

Patented by Irishman Robert Barker in 1787, the panorama form, with its gigantic canvases, flourished in Europe and the eastern United States in the 19th century, placing viewers at the very epicenter of pitched battles and elaborate gardens. Panoramas were not meant for sober viewing on museum or art gallery walls. Rather, they functioned as mass cultural experiences, and the often grand rotundas that housed them served a purpose not un-

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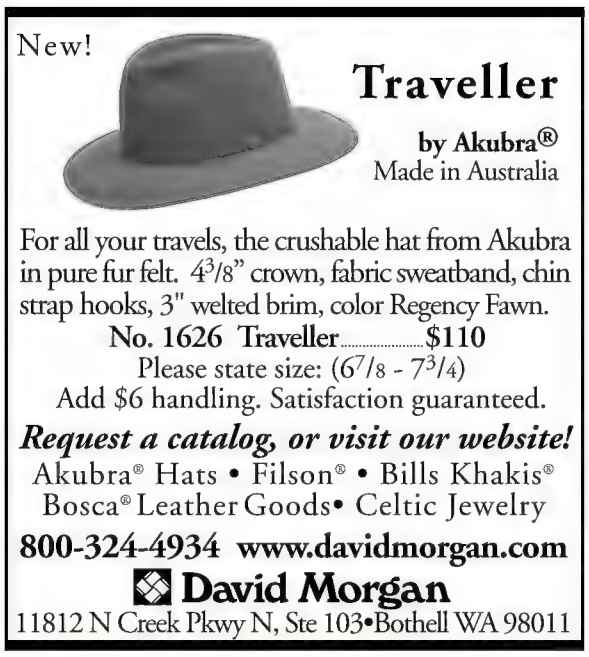
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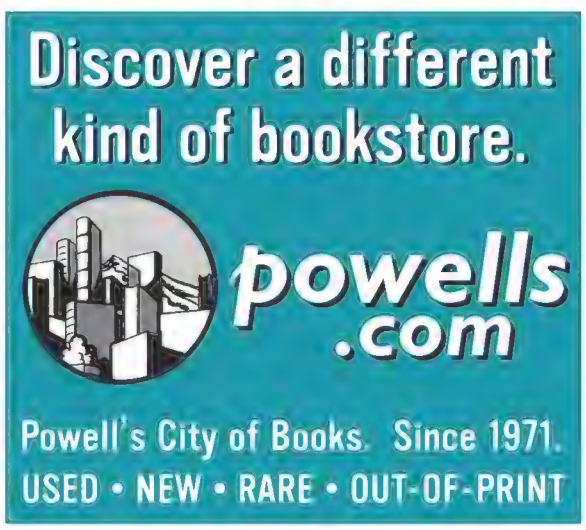

like that of a movie theater.

The Velaslavasay Panorama is one of only three in the United States on display in rotundas. The other two, which both date to the 19th century, commemorate bloody Civil War conflicts: Paul Philippoteaux's *The High Water Mark at Gettysburg* (1884) is in Gettysburg National Military Park, and William Wehner's *Battle of Atlanta* (1896) is in that city's Grant Park. Velas' panorama was completed in early 2001.

Many other surviving American panoramas have long since been disassembled, their canvas panels relegated to deep storage. Since Velas must vacate her rotunda later this month in anticipation of the building's demolition, hers could well meet the same fate.

Velas grew up in the San Fernando Valley outside Los Angeles. Her mother, Laura, loved dragging Sara and her two younger sisters to such historical sites as Colonial Williamsburg, Virginia, or Old Sturbridge Village, Massachusetts. Trips to Disneyland came courtesy of Velas' father, Joseph, a lighting manufacturer who provided the bulbs for the theme park's former Main Street Electrical Parade. Velas' interest in painting began, says her father, as soon as she could hold a brush. Her fascination with historic Los Angeles and Victoriana took root later, during high school, when outings to crumbling turn-of-the-century mansions downtown led her to value the past. "In L.A., there are only a few remnants of Victorian buildings," she says. "Because there's so little left here, it seemed more interesting. If I had grown up in San Francisco, I don't know if I would have felt the same way."

At Washington University in St. Louis, which she attended on a full scholarship, Velas "started doing wider and wider paintings, because I became more and more interested in peripheral vision." And her passion for Victoriana continued to grow. "There's just something weird about that time period," she says, "particularly because it's the furthest back that was heavily documented in photographs." By her senior year, Velas' preoccupation with the 19th

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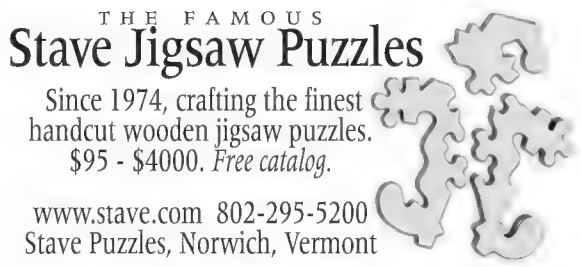
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"I thought, 'Oh my God, what an amazing building,'" says Velas.

century and her thirst for ever wider canvases had led her to the panorama, which married the Victorians' love of art and technology into one great spectacle. "It wasn't just the painting," Velas says. "It was about everything that goes along with it. Those crazy round buildings that housed them. The pamphlets they'd give you, where the writing was so overblown." For her senior project, Velas stretched her *Nocturnal Panorama of a Desert Landscape* across four sides of a rectangular gallery. Then, upon graduation, she departed for a "panoramic" tour of Europe, where the greatest number of 19th-century rotundas, less than ten, survive. One of her favorite works was *The Battle of Bergisel* in Innsbruck, Austria. "There was this 3-D sculpture of a fallen soldier in front of the painting," she says, "which further extended the reality."

A former L.A. movie theater may turn out to be Velas' next panorama venue.

Although Velas had driven past the intersection of Hollywood Boulevard and Western Avenue dozens of times without noticing the circular building strewn with garbage and overflowing with weeds, it was not until March 2000 that she set her eyes—and her hopes—on the Polynesian-style structure, which in various incarnations had housed a Chinese restaurant, a travel agency and a pizzeria. "I thought, 'Oh my God, what an amazing building.' It looked so much like those panorama rotundas I'd seen." She signed a lease, and after ten months of hauling trash, pulling weeds and building the interior walls on which to mount *The Panorama of the Valley of the Smokes*, she held a gala opening; a juggler, two fortunetelling cats and an organ grinder with a sock-puppet monkey entertained the guests. Velas set a $2 suggested admission fee and filed for nonprofit status. Actress Diane Keaton has proved an especially generous donor, and Brad Pitt has called the place "a little oasis in Hollywood."

Velas cites two main artistic inspirations: the 19th-century German Ro-

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For the rotunda's farewell gala wake, says Velas, "we're going to have a guy who's part of a 19th-century band play taps."

mantic painter Caspar David Friedrich and flamboyant circus showman P. T. Barnum. "I love the way Barnum could get away with saying almost anything to get people into his entertainments," she says. In his spirit, Velas has hosted old-fashioned ice-cream socials, an Ides of March celebration and an annual séance series, at which silent-movie vamp Theda Bara recently showed up, in a rather foul mood.

As the panorama's days dwindle, Velas is planning another gala for the rotunda, this one of farewell—half-celebration and half-wake. "We're going to have a guy who's part of a 19th-century brass band play taps," she says. "And we're going to give out little pieces of the garden to the guests so they can replant them wherever they want." With much fanfare, she'll remove the giant cherry from the hut's summit for safekeeping and future installation.

In late March, Velas learned that the early-1900s Union Theatre, a modest brick movie venue most recently used as a church, might be available to rent. It's not a rotunda, but Velas is confident she can construct a round interior framework. She also hopes to "create a space where you could enter the panorama through the center, instead of through a door that breaks the continuity of the painting." And she appreciates the irony of displaying her art in a movie house. "Panoramas died out partly because of the rise of the moving image," she says, "so the idea of a panorama taking over a movie theater is a very fun possibility."

ED LEIBOWITZ lives in Los Angeles and is a frequent contributor to SMITHSONIAN.

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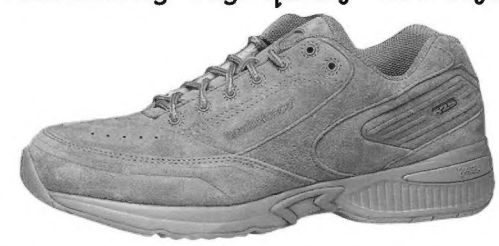

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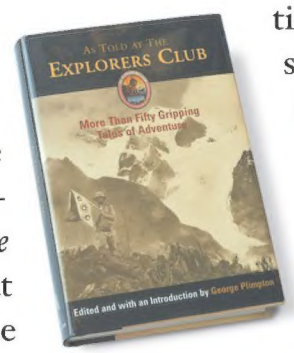
AS TOLD AT THE EXPLORERS CLUB: MORE THAN FIFTY GRIPPING TALES OF ADVENTURE

EDITED BY GEORGE PLIMPTON

LYONS PRESS, $24.95

I ONCE HAD the pleasure of spending Christmas week in a stately house in Shropshire, just across the border from Wales. Though milady, the mother of a friend and my hostess, was a bit daft and the house a bit drafty, I've never enjoyed a Christmas more. Each morning I awoke to find my breakfast was set out on a table by the window, with a lidded silver salver covering boiled eggs, country ham, scones and other famously good reasons for getting out of bed on a cold English day.


As Told At The
Explorers Club
More Than Fifty Gripping Tales of Adventure
Edited and with an Introduction by George Plimpton

I was reminded of these happy moments upon opening the book *As Told At The Explorers Club*. I felt sure that under the cover I'd find one delight after another, my anticipation buoyed by the line "Edited and with an Introduction by George Plimpton." Both an engaging writer (*Paper Lion*) and a first-class editor (and a member of the club), the legendary Plimpton—who, alas, died this past September—knew a fine yarn when he heard one. In this, one of his last gifts to readers, he does not disappoint.

The Plimptonian aura—and a touch of 19th-century salesmanship—is expressed right away in its subtitle: "More Than Fifty Gripping Tales of Adventure," since the book presents exactly 51 stories. And the slightly arcane term "gripping tales" has a similarly old-fashioned ring. Indeed, even the term "adventure" bears examination. For while many of the tales do recount astonishing adventures, the word itself rarely, if ever, appears. It is noteworthy that the venerable institution, housed since 1965 in a Tudor-style mansion on East 70th Street in Manhattan, is known as the Explorers Club, not the Adventurers Club. Whatever risks members of the club may take in their ascents of Everest or epic treks across the looming dunes of Saudi Arabia, they tend to avoid the greatest of all dangers: puffing themselves up.

Thus, mountaineer Glenn Porzak, describing a 1990 American expedition to Everest and its sister peak Lhotse, seems mildly embarrassed just to recount a particularly hair-raising part of the climb. "It consisted of a series of 100 foot vertical ice towers, which had to be climbed and descended with the aid of fixed ladders. Then a heavily crevassed area and final 75 foot head wall had to be negotiated before reaching the site of Camp I. This section had a deadly beauty and was simply awesome. To summarize my feelings about the Khumbu ice fall: after 32 separate trips through the ice fall over three expeditions, the best thing about having Everest behind me is knowing that I will never again have to set foot in this dreaded death trap."

In his introduction, Plimpton describes the club's traditional Thursday evening gatherings when members just back from some hard patch of the planet tell their stories. One can almost taste a fine old port, inducing what Mark Twain called "stretchers"—tales given just a push or two toward legend. "Do you believe in ghosts? Well, I don't either," begins Mervyn Cowie's story about a spectral pride of man-eating lions, "but I have to admit that certain things happen in most unexpected ways, and forever defy any logical explanation. Some years ago I had a long tussle with ghosts and I eventually had to accept defeat. It all started and finished with lions. Let me tell you how it developed. . . . "

Wait. Perhaps those flickering flames aren't from the Explorers Club's walk-in fireplace after all, but a campfire on the Serengeti. Go on, old chap, tell us the story.

Reviewer OWEN EDWARDS lives in San Francisco.

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Back Story

You may beat out a bunt, but there's no running away from the past

BY DOUG CRANDELL

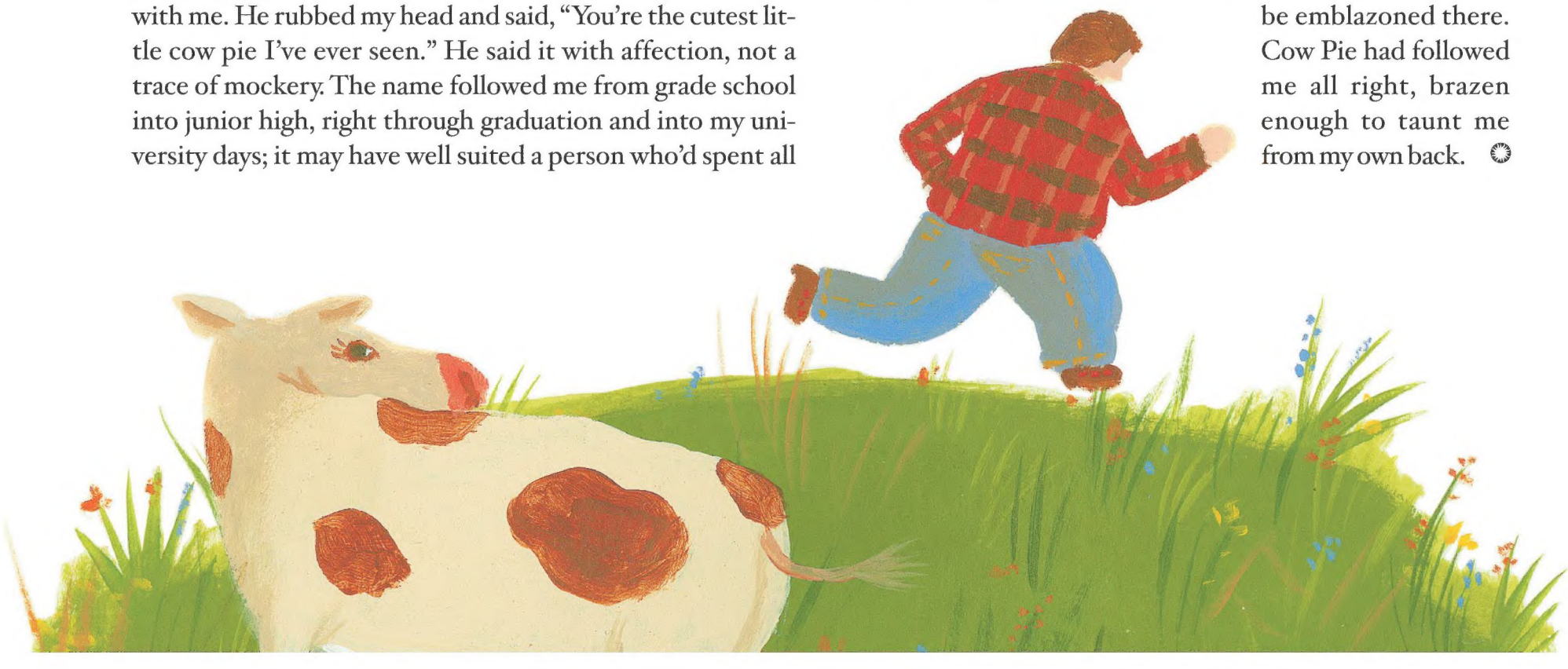
I WAS TRYING to get rid of a name, a childhood nickname. I had moved from Indiana to start a new job in Georgia, and I was making certain I'd not inadvertently brought it with me from North to South. I methodically went through my mental checklist: jettison the e-mail address that contains the offensive Hoosier-handle (check); urge brothers and sisters to telephone me only at home (check); discard any and all gag gifts, birthday cards, desktop mementos and key chains bearing the dreaded appellation. I also sorted through all the books, journal articles and files I planned to take to my new job and purged every sticky note and fax cover sheet that harbored the moniker, whether in cursive or typescript. When I stood up from the floor and surveyed the boxes all ready to be carried to the car for my first day, I was satisfied that I'd left it safely back in Indiana, maybe resting in the green hummocks of a fine pasture or hiding in a field of ten-foot-high tasseling corn.

I've had the nickname for 25 years, since I was 7 years old and living near Wabash, Indiana, the first electrically lighted city in the world, where I grew up stocky and chunky on a farm. Knocking on the front door for my first stay-over at a schoolmate's house in town, I was greeted by his father, a man who, uncomprehendingly to me, made his living by simply going to work in an office rather than raising livestock and plowing. He smiled broadly and bent down face to face with me. He rubbed my head and said, "You're the cutest little cow pie I've ever seen." He said it with affection, not a trace of mockery. The name followed me from grade school into junior high, right through graduation and into my university days; it may have well suited a person who'd spent all of his life in Indiana, but when I decided to move to Georgia, I desperately wanted the name to remain Hoosier-bound.

It was a beautiful spring day in Smyrna, Georgia, full of blooming Bradford pears and dogwood and other trees and shrubs that I couldn't name, blasting with the fulgurant petals of May. It had been six weeks since I started the job and all seemed secure on the Cow Pie front. No e-mails had slipped through, I had received no faxes or letters with the offensive name and none of my family members—though they'd phoned me at my apartment frequently to say, "Howdy Cow Pie!"—had called me at the office. I was beginning to breathe easy.

I am not a great softball player, but I like the sport, the way the fat ball thuds if you connect just right, or the smell of the sand (in Georgia it's red marl) whipping up as you try your best to get your abundant body to round the bases at an unembarrassing clip. So I had joined the office team. The afternoon of our first game, I'd dressed quickly, throwing on my old Indiana jersey and lacing up my spikes enthusiastically. When I got to the ballpark, my new co-workers all seemed pleased to see me, waving and smiling as I crossed the grass to warm up. Some were even grinning.

Then, from the dugout, I heard a voice, the same voice, now amplified, that often announced I had a phone call on line one: "Out in left field today we have . . . *Cow Pie*!" Like a dog chasing its tail, I contorted to try to see what I already knew had to be emblazoned there. Cow Pie had followed me all right, brazen enough to taunt me from my own back.



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